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ABSTRACT

This document on inservice training and staff development is one in a series of four developed to provide a comprehensive overview of the scope of training practices relating to adult learning. Directed toward educators designing and conducting training programs and toward trainers of trainers, these contributions by adult educators and developmental theorists present interpretations of existing knowledge and new concepts in adult learning. Chapter 1 briefly addresses some adult educator perspectives and implications of adult development in providing an appropriate definition. Chapter 2 discusses the inservice educator as an adult learner and highlights the affective dimensions of adult learning. Chapter 3 focuses on what contributes to the effective educator-trainer. In chapter 4 the current status of adult learning theory is discussed. Chapter 5 presents essential concepts of adult learning potential as they relate to training. Chapter 6 focuses on the dilemma facing higher education and public school systems as they both attempt to address inservice education. Chapter 7 emphasizes how stressful life events influence the educator-trainer. Existing approaches to stress and strategies for adaptation are provided. Chapter 8 focuses on development of a total person model of adult learning theory. (YLB)

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OVERVIEW OF TRAINING PRACTICES

INCORPORATING ADULT LEARNING

Adult Learning in Inservice Training

and Staff Development

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U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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Preface

Because of the scope of training practices relating to adult learning, it has been necessary to develop a series of documents that provides a comprehensive overview. While each document represents a unique aspect of adult learning, the composite encompasses a profile of States' involvement, the political response on a national basis, the programmatic efforts of higher education, the meaning and application of adult learning to training, and a listing of reading materials. The four documents contained within the Overview of Training Practices Incorporating Adult Learning are:

- .Current Trends and Practices in Adult Learning
- .Selected Federal Legislation and Programs Relating to Adult Learning
- .Adult Learning in Inservice Training and Staff Development
- .Annotated Bibliography on Adult Learning

Even though the concept of adult learning is by no means a new one, only very recently has it been viewed as an essential aspect of training. The dilemma facing those of us involved with providing training services is how to apply adult learning principles to practice, given the sparsity and fragmented nature of the existing information base, especially where training approaches and practices are concerned. With that in mind, the purpose of these overview documents is twofold: (1) to contribute to filling the information gap relating to adult learning in training; and (2) to provide trainers with reference guides to exisiting sources of information.

Within the framework of the Overview of Training Practices Incorporating Adult Learning, we have sought to respond to the following questions.

- .What is the adult learning process?
- .How can human potential be more fully developed and utilized?

- How can life span training be effectively applied?
- What kind of approaches to adult learning exist? What kind are needed?
- How can empathy training of education personnel be effectively applied to adult learning?
- How can training function as an adult learning process?
- What is the teacher-learner function of the adult in the learning process?

By addressing these questions, it is our hope that along with providing a picture of the current status of adult learning in training practices throughout the nation, trainers will be intrigued enough to seek to expand their knowledge and understanding of how adults learn, and stimulated enough to create new and innovative training approaches that take into account the complexity and diversity of the adult learners who participate.

Preparation of these documents has at some point involved virtually the entire staff of the Adult Learning Potential Institute, to whom I am most grateful. Heartfelt appreciation to Juanita Fletcher, Associate Director, who with tender loving care devoted her time, talent, energy, and commitment to making this document a reality. Special recognition for their good humor, team spirit, tireless determination, and skillful work in producing successive versions of this document goes to Marjorie Lambert, office manager, who kept it (and us as well) all together, and to Jeanetta Bruce and Terry Raffelt, research secretaries, for their indomitable spirit and their tenacious perseverance to complete the task at hand.

Winifred I. Warnat
September, 1980

Introduction

The acknowledgement of adult learning as a crucial aspect of inservice training and staff development is a recent phenomena. Therefore, it comes as no surprise that our knowledge base in this area is extremely sparse. It is the intent of Adult Learning in Inservice Training and Staff Development to contribute to furthering our understanding of adult learning, and to apply that understanding to training approaches and practices. Directed toward those educators who are designing and conducting training programs and to the trainers of trainers, this compilation, which relies heavily upon the contributions of adult educators and developmental theorists, presents provocative interpretations of existing knowledge on adult learning, as well as introduces new thought-provoking concepts on what needs to be considered in developing training programs that truly take into account the needs and talents of the adult learner constituencies involved.

Adult Learning in Inservice Training and Staff Development is arranged so that the sequential discussion of issues relevant to effective inservice training and staff development is presented. During the course of the discussions, analyses are made concerning developmental and circumstantial influences impacting on adult learners. In addition, ideas and insights are synthesized into theoretical constructs relating to those aspects of adult learning that should be taken into consideration in the context of training. A strong argument is made for recognition of inservice and staff development trainees, trainers, and trainers of trainers as adults who are learning within the training milieu.

In Chapter One, we get a glimpse of the range that adult learning encompasses, with a brief look at some adult educator perspectives and the implications of adult development in providing an appropriate definition. Chapter Two zeroes in on the inservice educator as an adult learner and highlights the affective dimensions of adult learning

within the context of stress and the adult learner as a total person. What contributes to the effective educator-trainer is the focus of Chapter Three which introduces the concepts of unlearning and self-imposed limitations as critical influences on our adult learning potential. In Chapter Four, we look at the current status of adult learning theory through an analysis of the contributions of adult educators and developmental theorists, as well as current knowledge and understanding of the human mind in relationship to our adult learning capacities. Essential concepts of adult learning potential as they relate to training are presented in Chapter Five that encompass life events as learning lessons, layering as a resource data bank, motivation as the key activator, and unlearning as a creative function. Chapter Six focuses upon the dilemma facing both higher education and public school systems as they attempt to address inservice education. How stressful life events influence the educator-trainer is emphasized in Chapter Seven, which provides an analysis of existing approaches to stress and strategies for adaptation. Finally, Chapter Eight focuses on the development of a theory of adult learning based upon the multifaceted composition of the adult learner as a total person.

Adult Learning in Inservice Training and Staff Development is a compilation of writings by Winifred Warnat. Each chapter emanates from her research and theory building efforts, and is based on scholarly papers that she has presented to numerous professional organizations. In that regard, some of the organizations she has addressed include the National Council of States on Inservice Education, the Association of Teacher Educators, the American Association of Colleges for Teacher Education, and the Adult Education Research Conference.

ADULT LEARNING IN

INSERVICE TRAINING AND STAFF DEVELOPMENT

I

Adult Learning: A New Dimension of Inservice Education

The perspective of adult learning presented here concentrates on enhancing the development and use of human potential. Traditionally inservice education has concentrated on skills development and new knowledge acquisition for educators who are interested in improving or upgrading their current job skills. Today, emphasis is still placed on the cognitive dimensions of learning, which actually represents only a nominal percentage of adult learning functions, while the affective dimensions, which clearly dominate are barely touched in inservice education activities. Adult learning is perceived as a comprehensive approach to learning directly related to the "total adult." Within that context, a crucial element of inservice should be sensitivity and accommodation to the total milieu of life events that affect the adult learner functioning in the inservice training environment. Affecting his or her response to inservice is the indirect but significant impact of family life and work life on the adult learning process. The life events experienced by each and every inservice participant incorporate stress factors and motivating forces that influence responsiveness to the inservice training effort.

Life span learning is the perspective of adult learning which relates individual adult development and the occurrence of life events to changes in a person's adult learning process. The resulting stress and its impact on motivation are major elements also affecting the adult's response to learning-related activities.

Adult Learning Defined

Adult learning is defined as the adult life process involved with obtaining knowledge, understanding, or skill through experience, study, or instruction. In order to define adult learning appropriately, contributions of some of the recognized leaders in the evolution of the concept are reviewed.

One of the earliest contributors, Eduard Lindeman, as far back as 1926, identified five key assumptions about adult learners.[1] He

posited that:

1. Adults are motivated to learn as they experience needs and interests that learning will satisfy.

2. Adults' orientation to learning is life-centered.

3. Experience is the richest resource for adults' learning.

4. Adults have a deep need to be self-directing.

5. Individual differences among people increase with age.

Another major contributor is Cyril Houle, who began his investigations in the 1950's at the University at Chicago.[2] Among his contributions to the understanding of adult learning is the designation of a typology categorizing adult learners into three distinct groups:

.the goal-oriented learners, who use education for accomplishing fairly clear-cut objectives;

.the activity-oriented learners, who find a meaning in the circumstances of learning which have little if any connection with the purpose or content of the activity; and

.the learning-oriented learners, who seek knowledge purely for its own sake.

Allen Tough elaborated further on Houle's work which has resulted in his significant contribution to understanding the self-directed learning of adults.[3] He has developed what, in essence, is a formula to identify the adult's learning effort, which he refers to as an *adult learning project*. According to Tough, an *adult learning project* consists of a series of learning episodes concentrated on a given topic of interest which are conducted over a given period of time. He points out that almost every adult undertakes at least one or two major learning projects a year, and typically spends 700 hours per year on learning projects. He estimates that approximately 70 percent of all learning projects are planned by the learner himself/herself. His approach concentrates on self-initiated learning efforts in which the teacher or resource functions in a helping role only, and one that is sought out by the learner himself/herself.

Any substantive discussion of adult learning must include the work of Malcolm Knowles, the leading developer and proponent of the concept of andragogy--the art and science of teaching adults--, as opposed to pedagogy--the art and science of teaching children.[4] According to Knowles, the theory of andragogy, focuses on the competency development of life roles and is based upon at least four basic assumptions:

Assumption One: As the individual matures the self-concept moves from one of total dependence to one of increasing self-directedness.

Assumption Two: As the individual matures, a growing reservoir of experiences is accumulated which becomes an increasing learning resource and provides a broadening base to relate new learning.

Assumption Three: As the individual matures, the readiness to learn is increasingly oriented to the developmental tasks of evolving social roles.

Assumption Four: As the individual matures, there is a shift in learning from subject-centeredness to one of problem-centeredness.

As Knowles develops his assumptions on the characteristics of adult learners, he elaborates further on their implications for the adult learning process. Among these implications, he identifies the following:

.Adults enjoy planning and carrying out their own learning exercises.

.Discovery of how to learn from experience is the key to self-actualization.

.Mistakes are opportunities for learning.

.Adult's readiness-to-learn and teachable moments peak at those points where a learning opportunity is coordinated with a recognition of the need-to-know.

.Formal curriculum development is less valuable than finding out what the learners need to learn.

.Adults need the opportunity to apply and try out learning quickly.

Drawing heavily on Maslow and Bruner, J.R. Kidd zeroes in on the development of the adult learner as *being* and *becoming*.[5] According to him, the learner is at the center of experience and based on his perception of that experience, s/he reacts to it. Kidd infers that perhaps the most important task in learning is the development of a self that can deal with reality. Concentrating on the uniquely individual education for self-hood, he focuses on the following five points.

1. The learner reacts to experience as an organized whole.

2. Learning and any other behavior is essentially an attempt by the person to satisfy personal needs as s/he perceives them.

3. The behavior of the learner can be fully understood only from his or her own point-of-view.

4. Gradually within a human being, there is the development of self and this development is crucial for all learning.

5. All new experiences for the learner are symbolized and organized into some relationship to the self, or are ignored because there is no perceived relationship, or are denied organization, or are given distorted learning because the experience seems inconsistent with the structure of the self.

This brief overview of expert perspectives gives some notion of the concept of adult learning, and should begin to contribute to increasing awareness of its applicability to inservice education providers and participants.

How Adult Development Fits

The current popularity of attempting to understand the sequence of adult development is made evident by the plethora of popular works attempting to describe the process. The most recent include those of Sheehy, Gould, Levinson, and Vaillant.[6,7,8,9] The numerous approaches, both old and new, have in common a number of characteristics:

1. They tend to identify a series of phases which describe common clusters of activities in which most adults engage or encounter during a given period of time in their developmental process.

2. They tend to zero in on certain select factors which contribute to adult development, while neglecting to address others--none of the approaches take into account the total milieu of the adult.

3. With the exception of Robert Peck and the most recent contribution of John Tropman in identifying the developmental stages of later adulthood, the existing approaches concentrate on development in the years prior to age 50.[10, 11]

4. The development process relating to adult learning is not addressed by the recognized developmental theorists, with the exception of the effort of Havighurst who identified developmental tasks throughout the life span.[12] However, even his contribution is but a cursory effort in development beyond the age of 30.

Virtually untouched by the theorists in adult development are the multi-faceted dynamics which are intricately interwoven into the fiber of each adult's individual learning. The fact of the matter is that the human development of each and every adult consists of at least six distinct processes, encompassing the individual and social dimensions of growth, of which learning, both cognitive and affective, is but one part. The other five include the physical, sexual, family, work, and leisure processes of development. The six processes, while operating simultaneously throughout the life span, are each functioning in varying sequences of growth.

Adding to the complexity of the ever-functioning processes are numerous forces which also simultaneously impact on them and on each other throughout the life span. These forces have significant influence on the development of self-identity and perceptions. Some of the forces include: relatives and ancestry, cultural heritage and affiliation, religious upbringing and beliefs; also one's life space and sense of timing as related to the occurrence of significant life events. The

forces contribute significantly to the development of the attitudes, values, and beliefs adopted by the maturing individual.

A third element of adult development is the predictable and unpredictable critical life events which occur throughout the life span. These life events dramatically impact upon the processes and forces of human development. Some of the significant incidents which randomly occur, dramatically and uniquely impact upon each of us at various stages of our lives. These incidents can include happenings such as marriage, birth of a child, divorce, illness, job change, retirement, and the like. As a life event happens, it influences and is influenced by the particular stage of development which the individual is in at that time. With the occurrence of a critical life event, the human being is constantly called upon not only to handle it, but also to incorporate effectively the positive adaptive outcomes into his or her total experiential repertoire of responses.

Fortunately, there is growing consensus recognizing these complexities and the fact that the life process of the human being is best characterized as one that is undergoing continual change and adaptation to that change. When we talk about life span learning, we are actually referring to the adaptation and assimilation efforts of the individual as s/he attempts to adjust to the myriad of life processes, forces, and events which must be responded to throughout life.

The Adult Learning Process in Inservice

In terms of the adult learning process, the following is evidenced and should be considered when designing and implementing inservice programs.[13,14]

.Adults tend to underestimate their learning ability by over-emphasizing their early school experience and under-emphasizing their recent informal learning experience.

.Almost any adult is able to learn almost any subject given sufficient time and attention.

.Effective learning entails an active search for meaning in which new learning can build on current competencies.

.Learning achievement is modified by the characteristics of the individual.

.Developmental changes in thinking during adulthood are reflected in problem-solving, critical thinking, and creativity.

John McLeisch, in his work, The Ulyssean Adult, also presents some intriguing facts about three elements of adult learning--intelligence, happiness and satisfaction with life, and creativity.[15] By looking at them, more clues are given pertaining to the development of inservice education programs which contribute to enhancing the human potential of each participant. Some of those clues follow.

.In terms of intelligence, based on I.Q. we are smartest from 18 to 25 years, but we are wiser and more experienced with increasing age.

.At age 45, our vocabularly is three times greater than when we graduated from college.

.At age 60, our brain possesses almost four times as much information as when we were 21.

.In terms of happiness and satisfaction with life, we have the best physical sense of ourselves from ages 15 to 24.

.We have the best professional sense of ourselves from ages 40 to 49.

.Pessimism peaks between ages 30 and 39.

.After age 30 we become more realistic about achieving happiness; we realize that talent and determination are not enough to guarantee success, and that happiness is no longer a goal in itself, but encompasses our health, professional achievement, and emotional goals.

.In terms of creativity, generally, the peak period is between the ages of 30 and 39, but varies according to profession.

.For the well conditioned mind, there is no peak.

.While the peak in most fields comes early, creative people continue to produce quality work throughout their lives.

As has been previously mentioned, the adult learning process is dominated by its affective dimensions. That being the case, we may do well to seriously consider Bishof's recommendation in measuring adult intelligence when he states that:

> Adjustment rather than achievement would seem to be a more realistic criterion of successfully solving the problems of aging [particularly] through the middle and later years. In the adult aging process social competence and effectiveness in coping are far better measures of intelligence than rearranging blocks speedily.[16]

Let us assume that social competence and effectiveness in coping, indeed may be the basic and most significant elements of adult intelligence. As related to inservice education, a new mind-set must be cultivated, which puts into proper perspective these two crucial dimensions, particularly given the over-emphasis and dominance of the cognitive in current inservice education practices. Thus far we have overlooked the obvious--that <u>inservice participants are truly adult learners, whose adult learning patterns continue to change throughout the life span</u>.

It is unfortunate that current inservice education practices do not consider individual differences resulting from change over the life span in program development and implementation. (It is of interest to note that participation in inservice programs tends to decline as one ages. This is evidenced by the fact that the majority of participants are between the ages of 25 and 40.) Even though job-related training, in this instance inservice education, is the major type of formal learning in which adults participate, these learners are consistently approached as a homogeneous group in which every member is expected to participate and to respond in like fashion--this occurs even though the activity design may, in and of itself, be creative.

Recommendations

Based on what has been presented, the following recommendations relating to inservice education are made.

1. *Adult learning* needs to be concretely incorporated into inservice education activities, since it penetrates the core of learner motivation and adaptation to the learning process based on developmental changes which occur throughout the life span.

2. The educator-trainer needs to change perspectives concerning the inservice participant's potential and capacity to learn beyond that which is purely cognitive.

3. The inservice participant needs to be viewed from a "total" adult perspective, as well as one that encompasses the diversity of the adult learning process of each individual.

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[16]Bischof, op.cit, p. 138

II

The Inservice Educator As Adult Learner

The manner in which each of us acquires knowledge, skill and understanding that pertains to obtaining and handling new information, performance, and life experience changes throughout the life span. While this process includes both intentional and spontaneous learning, most of our learning occurs on an experiential basis and focuses upon its affective dimensions. It is within the affective dimension that each of us proceeds to identify, select, prepare, modify, and finally adopt those feelings, attitudes, values, and behaviors which most appropraitely fit into our personal life's milieu. Change is a constant dynamic, and it is in the context of change that the adult learner as inservice educator will be examined here. *Adult learning* is the adult life process involved with obtaining knowledge, understanding or skill through experience, study, or instruction; it concentrates on maximizing the development and use of human potential.

Although self-evident that we are *all* adult learners, the inservice educator does not view either himself/herself or the inservice participant as an adult learner. Why not? One reason is that the inservice educator has no formal preparation in understanding how the developmental changes and stages which occur over one's life span affect our adult learning processes. At best, some may have a solid foundation in learning theory or child development. Where the preparation to become inservice educators is concerned, interest and experience are the two major qualifying criteria. In addition, many are operating under the incorrect assumption that adults get more alike rather than less alike as they mature. The truth is that diversity is indeed a major characteristic of adulthood--as we mature, we become more and more unique as "unduplicatible" individuals. Yet training practices continue to lump participants into homogeneous groups with homogeneous expectations and anticipated outcomes. Of par-

ticular relevance to educators should be the fact that everyone lives a life that serves as a personal living-learning laboratory for understanding the processes, forces, and events which influence a person's life as well as the lives of all others, especially the lives of those who enter her/his personal sphere of influence. However this unique living-learning laboratory has yet to be acknowledged.

The question might be asked: Why is it important for inservice education to incorporate the affective dimensions of learning into program activities? Here are five reasons:

.*Learning for Relevance*--In adulthood it can be assumed that the vast majority of our learning activities are life experience-related and occur within the affective domain.[1,2]

.*Learning as a Resource*--As we mature we accumulate a growing reservoir of experiences which becomes an increasing learning resource and provides a broadening base from which to relate new learning.[3]

.*Learning for Satisfaction*--As adults, we are motivated to learn as we experience needs and interests that learning will satisfy. Our readiness-to-learn and teachable moments peak when learning opportunity is coordinated with recognizing the need-to-know.[4]

.*Learning for Adaptation*--During adulthood, the developmental changes which occur in our thinking are reflected in problem-solving, critical thinking, and creativity. Probably the best criteria for assessing our success in using those three abilities are social competence and coping effectively.[5]

.*Learning for Personal Worth*--For us, contributing to enjoyment in planning and carrying out our own learning exercises is discovering how to learn from experience, which is the key to self-actualization.[6]

Stress in Adult Learning

Stress draws on the affective domain of learning. The purpose for carefully examining it here is that the concept of stress

carries within it the essence of adult learning. What follows is an examination of the affective dimensions of adult learning through the concept of stress.

What is Stress? While research efforts have concentrated on the adverse effects of stress on our physiology, Hans Selye,[7] referred to as the "Father of Stress" for his pioneering work, has presented a broader interpretation which addresses both health and self-fulfillment. Central to his view is the notion of "adaptation energy" which allows our body and mind to respond to stress and learning to cope with it. Selye defines *stress* as being the "nonspecific response of the body to any demand made upon it." *Stressors* are the stress producing stimuli to which we respond. The significance of Selye's theory on stress is based on his notion of "eustress" which presupposes that we have some choice in effectively channeling our stress and coping with it without excessive duress. Implicit in his "eustress" concept is an unalterable event. What *is* alterable is a person's response to that event. Selye views stress as constant throughout life. Further, he believes that "stress is the spice of life," and that "life without stress is death."

Frederic Flach,[8] another theorist, bases his view of stress on a person's strong urge to maintain and restore equilibrium when experienceing stress. He concentrates on those stressful experiences which demand restoring our balance and which require us to emerge changed in some way. According to Flach, successfully eliminating a cycle of ineffective, self-defeating behaviors is spurred by the demand to create new and alternative ways for dealing with stress.

The most significant research showing a causal relationship between stressful life events and illness is that conducted by Thomas Holmes and Richard Rahe.[9] They developed the Social Readjustment Rating Scale (SRRS), which ranks forty-three events according to the severity of their impact. The scale registers *life changes units (LCUs)*

on a scale of 0 to 100. Using the SRRS, numerous studies have been conducted across cultural and ethnic lines. Most significantly, the research results on the SRRS have indicated that the accumulation of crucial life events by an individual is related to the severity of ensuing illness. When LCU totals reached over 300, almost 80 percent of those subjects in that range became very ill during the following year; 50-70 percent of those sampled who were in the high risk category were subsequently hurt in accidents.[10]

What Causes Stress? In a world filled with tension, many factors contribute to stress. Without going beyond our self, the personal dynamics which foster the constant stress with which each of us lives through the entire life span will be explored. To begin with, the process of human development is unequivocally complex. While the developmental theorists have attempted to diagnose and interpret the developmental process, each has remained rather narrow in scope, even though many have made significant contributions to furthering our understanding of human development. What is meant when we use the term "total" child, "total" adult, "total" person has yet to be determined. However, it is within this "total" milieu of life that stress abides. What then is this "total" milieu? The "total" milieu encompasses our sequential, developmental processes, the intrinsic and extrinsic forces which influence them, and the innumerable life events which impact on our developmental scheme from conception to death.

Processes. Easy to identify are at least six processes which operate in everyone, although the configuration they form in each person is uniquely individual. While they function simultaneously throughout the life span, each process follows its own sequential course of development. The six processes include:

1. the *Physical* which concentrates on bodily growth, health and nutrition;

2. the *Sexual*, which concentrates on the physiological and emotional response to maleness and femaleness;

3. the *Learning*, which concentrates on the acquisition and use of knowledge, skills and experience;

4. the *Family*, which concentrates on the family a person is born into, as well as the family or families one establishes and has membership in;

5. the *Work*, which concentrates on the labor for livelihood that one pursues; and

6. the *Leisure* which concentrates on the personal use of free time.

Now imagine the energy that must be used to keep these six processes functioning harmoniously. When one is out of phase, all are affected. The result is stress. Therefore, our awareness of the complexitity of each process may influence its sequence, as well as allow us to effectively manage the movement of all six combined, as we progress through the life span.

Forces. Adding to the movement of the ongoing processes are the intrinsic and extrinsic forces which impact upon them. The forces directly influence attitudes, values, beliefs, and behaviors. Like the processes, the forces also are ever-present throughout the life span. However, they follow more of a layering pattern, than a sequential, developmental one. Beginning with the self as the foundation, and following the hierarchical pattern, ten forces are identified.

1. *Self* encompasses a person's sense of being and how s/he values himself or herself as a unique entity, including self-concept, self-identity, self-confidence, and the like.

2. *Heritage* encompasses past, present, and future dynamics of a person's family, kinfolk, and ancestry.

3. *Culture* encompasses ethnicity including customs, moral attitudes, and values which have been culturally transmitted.

4. *Religion* encompasses the personal set or institutionalized system of religious attitudes, beliefs and practices which relate to one's faithful devotion to an acknowledged ultimate reality or deity.

5. *Humanity* encompasses a person's sameness to others, that is, the universal commonality which exists among humankind, regardless of lineage or culture.

6. *Time* encompasses the chronology and incorporation of one's past, present, and future into his/her developmental sequence.

7. *Space* encompasses a person's "sphere of influence" and location in the cosmos in relation to the rest of humanity.

8. *Rhythm* encompasses synchronizing of events and processes that relate to the pace of a person's life.

9. *Nature* encompasses a person's relatonship to all other living things.

10. *The Universe* encompasses the totality of one's own being in terms of an orderly, harmonious, and systematic assimilation of the preceding nine forces.

Now, in addition to managing the six processes, we are expected to handle at least ten forces that are pushing on our system. As we mature, the power of the forces emerges. However, like Abraham Maslow's "hierarchy of needs," progression is based upon the successful adaptation of the first force before subsequent ones can be adequately addressed.[11] If adaptation is disrupted, stress results. Being able to understand how truly complicated our personal system is, allows us the opportunity to intercede and modify in a constructive manner our own progression through the maze of our life.

Life Events. Completing the picture of our "total" life milieu are the anticipated and unanticipated life events which occur in quantum throughout the life span. As they dramatically impact upon us during various periods in our lives, it is these life events which influence most of the sequence of the processes and the progression of the forces. Life events include puberty, graduation, marriage,

birth of a child, job promotion, divorce, illness, job change, retirement, and the like. Because of their unpredictable nature, life events contribute most to disruption in the equilibrium of our personal system. Stress results when we are unable to contend with a life event and its aftermath. With the occurrence of a critical life event, we are expected not only to handle it, but also to incorporate it effectively into our experiential repertoire of responses.

Resolving Stress. Clearly, stress is the essence of learning. The ultimate of human learning capacities rests with our individual abilities to manage, handle, cope with the myriad of stress-causing elements which impact upon each and every one of us. Reiterated throughout has been the fact that in order to maximize the development and use of human potential, first of all, we must know ourselves. That is, we must understand how we feel and be able to recognize our personal values and attitudes. Thereby we will be provided with viable, alternative solutions to accommodate changes in our patterns of development and resolve the effect of adverse stress upon our systems.

Adult Learning in Inservice

How does this apply to inservice education? First, inservice educators need to change their perspectives concerning adult learning potential. Adults do not learn in the same manner as children do. Furthermore, the adult learning process continues to change as a person moves through the life span. Indeed, the uniqueness of individual learning is most acute during the adult years. By remembering that (1) stress is constant, (2) it is complex, (3) it does motivate, and (4) it does contribute to learning, inservice educators need to prepare themselves for understanding how stress affects our adult learning capacities. They also need to discover how to create or nurture the stress which motivates a person to perform and achieve. To insure effective inservice education practices, the significance of experien-

tial and self-directed learning in motivating adult learners needs to be addressed.

Secondly, the inservice educator needs to view himself or herself as well as the inservice participant, from a "total" person perspective. This necessitates taking into consideration individual differences in terms of needs, interests, attitudes and abilities. Because of the rapid technological change and the expanding information explosion faced by this society (and the world), adult learning must take into account both learning and unlearning. The skills of unlearning can be viewed as the skills of attitude change. Change is the telltale dynamic of our being. Recognition of and adaptation to the myriad of elements which impact upon us throughout our lives, open new vistas for exploring and cultivating adult learning potential. Most people operate on a system overload. Therefore, if training is to be effective, it behooves inservice educators to be sensitive to the tensions affecting participants when they enter the inservice environment.

Thirdly, inservice educators need to incorporate adult learning principles into inservice education programs. The adult learning process penetrates the core of learner motivation and adaptation in response to the developmental changes that occur throughout the life span. In developing inservice activities based on adult learning, emphasis must be placed upon accurately determining what the learners need to learn. Assumptions concerning participant response need to be interpreted with caution, since learner response can be fully understood only by the learner himself/herself, from his/her own point of view. Within the context of stress and its realtionship to affective learning, inservice education can concentrate much of its energy on developing the personal management systems of its participants. In that regard, four suggestions are given. The inservice education program should provide each participant with skills that involve learning to

1. change the stressful environment.
2. manage potentially stressful situations.

3. develop alternative responses and solutions to stressful events.

4. identify varied strategies for circumventing the stressful happening.

(This does not mean reconstituting a new form of permissive education.)

In conclusion, through inservice education the capacity to revitalize ailing teacher education exists. This means that inservice educators need to be willing to take a chance by addressing the difficult and unexplored area of affective learning in adulthood. The essence of adult learning exists within the context of stress as a primary vehicle for motivating affective learning. By acknowledging the importance of our individual uniqueness, a learning climate is created which contributes to a personal sense of worth and a global sense of humanness. Inservice education provides a special opportunity for innovation that allows the educator to serve as a change agent, and renews the spirit and importance of education as the basis for living a fulfilling life.

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III

Adult Learning Potential: Implications for Educators

The entire notion of adult learning potential and its essence as the most crucial element to educator preparation and professional development is a pondersome one. An educator, as defined here, is anyone who is consciously involved in the formal education of self and others. This definition includes the teacher, principal, counselor, aide, director, staff development specialist, professor, dean, training consultant, and the like. Most of us are deeply concerned over the current state of formal education at all levels. Not because of a lack of talent or dollars, but rather what appears to be a growing cloud of pessimism and a suppression of constructive risk-taking. Consequently, this discussion concentrates on acknowledging and examining some new dimensions of our learning capacities that should be considered essential elements of our training practices. Adult learning potential encompasses how we capitalize on cultivating and using our learning abilities and capacities throughout our adult years. Three unique aspects of our adult learning potential are emphasized -- (1) stress, (2) self-imposed limitations, and (3) unlearning.

Future Views on Learning

Before exploring those three aspects, let's take a look at some current future-oriented perspectives on learning and education as they relate to us adult learner educators.

In their work, The Far Side of the Future: Social Problems and Educational Reconstruction, authors and futurists, Jim Bowman, Fred Kirstead, Chris Dede, and John Pulliam, discuss our role as educator in terms of our own lifelong learning.[1] According to them,

> Future survival cannot depend upon educating an expert elite which soon becomes obsolete. Instead of waiting for cues from society, educators must become pro-active. They must anticipate educational problems of tomorrow and build the foundation for solving them today.[2]

Special emphasis is placed on John Dewey's proposition that education is life itself, not merely preparation for life; and that as long as life continues, education will continue. The authors point out that teachers must be the initiators in taking responsibility for their own learning, and that doing so is a matter of teacher power and professionalization. Further, the authors reveal the crucial role that teachers play in our rapidly expanding knowledge society by acknowledging the fact that "lifelong learning is essential to survival," and that "teachers can exemplify this movement and serve society as education is expected to serve -- in a leaderhip capacity."[3]

One of the most provocative works on the future that also addresses learning and education is The Aquarian Conspriacy: Personal and Social Transformation in the 1980s, written by Marilyn Ferguson, expert on brain-mind research.[4] In discussing the current malaise affecting today's schools, she refers to the "pedogenic illnesses." According to Ferguson,

> As the greatest single social influence during the formative years, schools have been the instruments of our greatest denial, unconsciousness, conformity, and broken connections. Just as allopathic medicine treats symptoms without concern for the whole system, schools break knowledge and experience into "subjects," relentlessly turning wholes into parts, flowers into petals, history into events, without ever restoring continuity. ...Worse yet, not only is the mind broken, but too often, so is the spirit. Allopathic teaching produces the equivalent of latrogenic, or 'doctor-caused,' illness -- (that is) teacher-caused learning disabilities.[5]

On a more positive note, she acknowledges educators as the natural leaders of our emerging knowledge society. She interprets learning as transforming and in that regard, the transformation of the teacher, who is viewed as a "steersman, a catalyst, a facilitator -- an agent

of learning..."[6] According to Ferguson, in order to undergo the transformation process, four needs must be addressed: (1) the need for innovation, (2) the need for connection, (3) the need to transcend culture, and (4) the need for high expectations.

Also the concept of transpersonal learning is introduced, which focuses on the education of the whole person, education's counterpart to holistic medicine. Autonomy is viewed in terms of personal power and as the most crucial aspect of this new learning. She points out that even though our insights into human needs and capacities have changed more rapidly than our social structures, we continue to be resistant to creative and constructive change. Further, she states, "we use 'enemy skills' against change...failing to see that all growth depends on the capacity to transform."[7] It is her contention that the key to our adaptation to change is our control over our own life which involves autonomy. And this personal autonomy is crucial to our ability to use and express our personal power effectively.

Douglas Heath in his paper "Toward Teaching as a Self Renewing Calling," presented in 1979 at the invitational conference on "A Future Research and Development Agenda in Teacher Education," concentrates specifically on the teacher as adult learner.[8] He focuses upon the concept of psychological maturity. According to Heath, the more mature individual is:

(1) able to symbolize his/her experience -- is more reflective, more accurately aware of self, personal motives, and relationships with others;

(2) allocentric -- is capable of taking a multiplicity of perspectives, as well as empathetically understanding another's view;

(3) well-integrated -- thinking is more differentiated, rational, and consistent;

(4) more stable — thought processes are not easily disrupted by personal bias or stress; and

(5) more autonomous — is more discriminating, holds to personal values, and is more independent and self-reliant.

In terms of allocentric maturation, which s/he considers most crucial, Heath identifies five principles pertinent to educator training:

A. Create a climate of trust among faculty that encourages non-defensive and open personal relationships with each other...

B. Expect teachers to be responsible for the growth of other teachers...

C. Provide and educate for the skills necessary for corporate task learning...(helping each other grow)...

D. Provide the opportunity for teachers to assume alternative roles, like that of students, teachers of preceding and subsequent grades, even of administrators.[9]

Given those three perspectives, we get some sense of the magnitude of educator training in the context of adult learning expectations, needs, and demands that we will be facing in the future. Although differing in their focus, all three perspectives acknowledge the following: (1) the growing prominence of the knowledge society; (2) educators as the natural leaders of the knowledge society; (3) change as a critical dynamic of progress with educators serving as change agents; (4) teachers assuming increasing responsiblity for their own learning/training and that of their colleagues; and (5) the increasing emphasis on affective learning along with a new humanness not reflected in the humanism of the sixties and seventies. It is within the framework of these five qualities that we will now explore adult learning potential of educators through the concepts of stress, self-imposed limitations, and unlearning.

Several critical limitations concerning our understanding of adult learning and the educator are worth mentioning at this time.

First of all, no theories or interpretations exist that explain the adult learning process.

Second, within the schooling community, research on educator training focuses almost entirely on teachers; information on other educator populations is sadly neglected.

And third, our knowledge of learning, including learning theory, is inapproriately skewed toward its cognitive dimensions; ignored are its affective dimensions, where most learning occurs.

Stress. *An effective educator successfully manages stress and uses it as a positive motivator.* Motivation encompasses an interwoven amalgamation of both creativity and stress. It encompasses how we perceive the intensity of the external world around us in terms of our interaction with it. Mediated by our dominant concerns and expectations, our perceptions are directly related to influencing to what extent and by what means we are willing and able to change our behavior. At the core of motivation is the stress we feel in response to life events we have experienced that in turn prompt us to act.

As educators we need to prepare ourselves for understanding how stress affects our adult learning capacities by noting the following. First of all, we need to acknowledge that in today's world, there is no such thing as stress-free living. Second, we need to recognize that stress is constant, and that it is complex. Third, we need to realize that it is a dynamic, motivating force. And fourth, we need to understand that it contributes to both learning and unlearning. That being the case, it is imperative that we discover how to create or nurture the form of stress which motivates us to perform and achieve as we operate in an educator capacity and pursue professional development through training.

Pertinent to being a quality educator is being able to handle stress. We can manage stress by applying one of four possible

approaches. These alternatives involve learning to (1) change the stressful environment; (2) manage potentially stressful situations; (3) develop alternative responses and solutions; and (5) generate a variety of options for avoiding stressful experiences.

Because of the nature of stress in our work environment, these four alternatives are particularly relevant to the stress-filled education arena in which we operate. In that regard, we educators involved with staff development need to consider four questions as we proceed to identify and develop an appropriate strategy for handling stress in the workplace. We need to ask ourselves the following:

1. How can we change our stressful work environment?

2. How can we prepare for and manage the stressful work situations we encounter?

3. How can we develop a range of possible responses and solutions to the work related stress we are experiencing?

4. How can we produce viable and varied alternatives for circumventing the stressful work situation?

Robert Anderson, physician and author of Stress Power!, points out that, today, the psychological and sociocultural sources of stress are the ones most prominent in our complex, post-industrial society.[10] He concentrates on the concept of tension and defines it as the beginning of our response to stress. According to Anderson,

> Tension may be thought of as the result of maintaining conflicting bits of information of the same subject within the mind, whether consciously or unconsciously. The total tension experienced results from the sum of all the situations in which conflicting bits of information are present within the mind. When the areas of the brain containing those bits of information continue to be activated, tension builds up to form an energy.
>
> The buildup in the form of tension finds its way to whatever areas of the system are determined by a particular individual's unique pattern of neurochemical responses...[11]

He acknowledges that tension is bad only when it is insufficient or excessive. Adaptation also is a major aspect of his approach to stress. Anderson identifies eight ways for handling tension and facilitating adaptation. They are: (1) medication, (2) manipulation of the environment, (3) release of tension through activities, (4) conscious passive relaxation, (5) meditation, (6) fulfilling recognition needs, (7) working through emotional and mental blocks, and (8) cultivation of a positive attitude.

We are far from fully understanding the phenomena of stress and their influence on our learning capacities, especially as adults. Yet we know that learning occurs as we experience stress and that it contributes to the adaptation process. While we have gotten to the point of identifying and treating stress-related illnesses, we continue to sidestep the positive stress we experience that serves as a prime motivator, influencing personal achievement and satisfaction with life. We will now examine the powers of the mind in terms of self-imposed limitations and their influence on the teaching-learning process.

Self-imposed limitations. *An effective educator puts into proper perspective and overcomes self-imposed limitations that interfere with performance.* Self-imposed limitations are the mental barriers that we build to protect ourselves from what we do not know or understand. They are expressed through the attitudes, values, beliefs, and behaviors that we assume and hang on to in an effort to maintain the comfort of the known and familiar status quo. Self-imposed limitations are a direct response to our resistance to change that involves a basic fear of the unknown and uncertain, because we are unwilling to accept our inner strength and take on that responsibility.

In that regard, the power of the mind is marvelously portrayed by Norman Cousins in his book, Anatomy of an Illness as Perceived by the Patient.[12] He relates how he recovered from a crippling and supposedly irreversible disease. This compelling account of a person's will to live focuses upon the concept that each of us assumes responsi-

bility for our own well-being, and, as Cousin's experience reveals, we have the capability for doing so. In discussing what he has learned from his experience, Cousins notes, "I have learned never to underestimate the capacity of the human mind and body to regenerate."[13] He also gives considerable attention to the unfortunate tendency of us human beings to live within our self-imposed limitations. According to Cousins,

> There is far less knowledge about the fact that about 90% of pain is self-limiting, that it is not always an indication of poor health, and that, most frequently it is the result of tension, stress, worry, idleness, boredom, frustration, suppressed rage, insufficient sleep, overeating, poorly balanced diet, smoking, excessive abuses encountered by the human body in modern society. The most ignored fact of all about pain is to eliminate the abuse.[14]

With all we do know about the brain, at the maximum we only know about 10 percent of its total functioning. We can well ask, "What is the other 90 percent about?" Interesting that we educators assume that we understand learning and how to develop it, and that we continue to allow our self-imposed limitations to implant themselves with such dominance upon our will.

Regarding how we establish self-imposed limitations, Cousins provides additional insights. He points out that

> The war against microbes has been largely won, but the the struggle for equanimity is being lost. It is not just the congestion outside us--a congestion of people and ideas and issues--but our inner congestion that is hurting us. Our experiences come at us in such profusion and from so many different directions that they are never really sorted out, much less abosrbed. The result is clutter and confusion. We gorge the senses and starve the sensitivities.[15]

By acknowledging the power and dominance of the mind, we begin to have some sense of the intricacies of our self-imposed limitations and our ability to manage them.

The perspectives presented have provided at least two important revelations. First, the importance of the affective aspects of

learning has been brought to fore. In that regard, we need to recognize the intertwined nature of the cognitive and affective aspects of learning. And within that configuration accept and act on the prominence of those affective aspects, particularly as related to the emotive in terms of the attitudes, values, and feelings that influence educator performance. Second, the realization that we are capable of assuming responsibility for our lives has finally surfaced. Unfortunately, most of us do not wish to assume such, but instead run away from it. By all indications, we do, indeed, possess the capacity to be in much greater control of our lives than we are willing to suppose. Capable educators must be able to capitalize on this capacity in order to fully utilize their talents. Unlearning provides a means for overcoming our self-imposed limitations.

Unlearning. *An effective educator is able to unlearn the behaviors and patterns that no longer facilitate effective problem-solving, and can redirect them into more constructive processes.* Through unlearning, we are able to acknowledge the reality of those inhibiting learning patterns of the past that no longer nurture or encourage personal growth. Important to nurturing our learning potential and abilities is our willingness to forego those learning patterns that are inadequate as we develop new learning modes that will stimulate our constructive coping capacities. Most of us are locked into a mind-set that has kept us from fully acknowledging ourselves as developing individuals in constant need of reassessing and rechanneling our energies. The function of unlearning does not mean to imply that we erase what has been learned, but rather that we undo and redirect obsolete, past learning which is no longer useful or that poses an obstacle to new and useful means.

Unlearning is crucial to effective problem-solving. Since unlearning is essential for changing established but no longer useful learning patterns, we need to consider what intrinsic motivational factors influence our performance and stimulate the desire for change.

Five such factors that can contribute to a willingness to unlearn involve the following:

1. Unlearning for Relevance--Crucial to pursuing new learning during adulthood is its applicability and importance to daily living. In that regard, of paramount consequence to successful functioning is acknowledging the prominence of the *real basics* that encompass attitudes, values, and feelings, and which are, naturally, life-experience related. Unlearning is necessary in order to accommodate many of the changes occurring as a result of the maturation process.

2. Unlearning as a Resource--The reservoir of experiences we accumulate as we mature in our various life roles becomes an increasingly valuable learning resource. It provides a reference point from which to relate new learning that is more appropriate for addressing change and our adaptation to stress. Unlearning is crucial to remolding past learning patterns into new configurations that serve to highlight our heretofore untapped and unused, but newly emerging learning capacities, especially those pertaining to our problem-solving abilities.

3. Unlearning for Satisfaction--As adults and educators who are leaders, we are motivated to learn as we experience needs and interests that learning will satisfy. In that regard, problem-solving involves the coordination of our need-to-know and our readiness-to-act. It is through the process of unlearning that we are able to sort through, select, and modify what fits our current existence. Unlearning nurtures our vitality as maturing individuals by helping to keep our problem-solving abilities keen, particularly in our role as educator.

4. Unlearning for Adaptation--The developmental changes that occur in our learning functioning have significant impact on our evolving sense of self, since they influence how we pursue our personal aspirations, handle stress, and find solutions to life crises. Probably the best criteria for evaluating our success in addressing these three tasks are social competence and coping effec-

tively. In adapting to change, unlearning provides us with a vital vehicle for successful transition from one developmental phase into another succeeding one.

5. Unlearning for Personal Worth--For us, discovering how to learn from experience and being able to apply this learning successfully is the key to self-fulfillment and life satisfaction. While the external environment is important, our attitude about our role as educator and therefore change agent constitutes the most crucial dynamic influencing how we interpret the quality of our work life. Through the process of unlearning, we adult learner educators can gain deeper insights about ourselves as we overtly and actively redirect our desires and ambitions toward a new level of personal fulfillment that we constantly seek to improve upon.

The implications of unlearning on educator performance encompasses both creative functioning and motivational factors that contribute significantly to fostering our adult learning potential. Critical aspects are the self-examination and self-awareness that an educator should possess, especially in interacting with colleagues, superiors, and students. Reinforced by the unlearning process is the learner-educator dyad within each of us. As adult learners functioning in the role of educator, we must assume responsiblity for our own learning and its application in our daily existence.

Implications for Educators

This discussion of adult learning potential in terms of stress, self-imposed limitations, and unlearning, has been geared toward those areas of learning that are critical to functioning successfully in the role of educator, and should be incorporated into the training process. In that regard, it is worth noting some intriguing implications that all of this has for professional development in education.

1. Educators are on the forefront of social change, but have not yet acknowledged their prominence in the future.

2. Stress stimulates our learning and unlearning capacities and needs to be approached from a positive and constructive perspective.

3. Change is an ever-present and primary dynamic influencing our individual learning capacities and performance.

4. Self-imposed limitations can be overcome through unlearning.

5. Finally, to remain an effective educator, we can strengthen our teaching-learning talents and capacities by

- .becoming more creative in our approach to problem solving
- .being more risk-taking in exploring new and possible means for managing our lives
- .looking beyond traditional limits and self-imposed parameters to expanding our experience base with untried (but not unreasonable) options
- .exploring the unknown and finding out just how many choices there really are
- .developing options by always anticipating alternative outcomes
- .making the negative positive by changing and modifying our behavior, and
- .most of all, directing ourselves to where we wish to go.

More specifically, within the context of adult learning potential and us as adult learners, five recommendations pertinent to staff development can be made. In addressing the needs of our trainee constituencies, we should

.take into account the personal milieu in which we and each trainee function;

.consider the level and kind of stress that might be affecting us, as well as the traineee;

.know that our awareness of our own self-imposed limitations gives a cue for how tuned in we are to the mind obstacles encountered by trainees;

.be aware that our receptivity and ability to unlearn obsolete or inappropriate attitudes, values, and behaviors, provides a valuable tool for assisting trainees in their efforts to unlearn;

.remember that as adults we continue to mature at varying rates and in diverse aspects of our being. Each age and stage of

our lives provides new insights into how we function within the highly unique living-learning laboratory of our ever-developing self.

In conclusion, we educators are the leadership of the future, and as such should consider the following:

First, educational personnel includes everyone involved with formal instruction whether it occurs in schools, universities, the armed forces, social service organizations, private enterprise, or the like. It is this breadth of scope we need to address that represents the direction in which we should be headed, particularly within the context of adult learning potential. It is high time that we educators involved with adult learning assume responsibility for the leadership demands that have been virtually thrust into our laps.

Second, the knowledge explosion we are facing demands revision and expansion of education beyond the currently known limits of learning. We do not fully comprehend our sophisticated technological advancement, let alone its implications for future education practices. Nor do we fully comprehend how to cultivate our unused mental capacities within the framework of either formal education or informal learning.

Third, for all we know, we know very little. The cognitive aspects of learning, that formal education is so locked into, barely scratch the surface of our learning potential, whether we approach it through experience, theory, or research. It is becoming increasingly evident that the affective aspects of learning represent a major and highly complex domain representing a critical void in our knowledge and understanding of human learning processes and capabilities. Indeed, the core to successful functioning is most aptly provided by the *real basics* of attitudes, values, and feelings (not "reading, 'riting, and 'rithmetic"). And these *real basics* are cultivated within the unknown recesses of our minds.

Finally, in the words of Marilyn Ferguson,

We are in the early morning of understanding our place in the universe and our spectacular latent powers, the flexibility and transcendence of which we are capable. The scientific breakthroughs are throwing out a challenge: If our memories are as absorbent as research has demonstrated, our awareness as wide, our brains and bodies as sensitive; if we can will changes in our physiology at the level of a single cell; if we are the heirs to such evolutionary virtuosity --How can we be performing and learning at such mediocre levels? If we're so rich, why aren't we smart?[16]

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IV

Journey Into the Unknown: The Reality of Adult Learning Theory in Staff Development

Over the past few years, there has been increasing acknowledgement by those of us in the staff development arena, that adult learning principles must be considered in the planning of effective training programs. To become knowledgeable about those principles, we have been tapping the interpretations of adult learning developed by adult educators, and have been examining the contributions of the developmentalists as well. However, in spite of the energy expended to develop our understanding of the adult learner, we, along with the rest of the adult educator community, are faced with the realization that little is known about the adult learning process and how adults learn.

The report of the National Planning Committee on Teacher Education, A National Agenda for Research and Development 1979-1984, identified educators as adult learners as one of the priority research issues. According to the report

> Attention to basic descriptive and theoretical work examining professionals as adult learners is needed. This would include synthesis of existing work as well as extensions and further exploratory effects. That knowledge should provide one base for the design and delivery of training for teachers and teacher educators.[1]

In that context, three critical questions that will be explored here surfaced:

(1) What is the knowledge base of adult learning?

(2) What other dimensions might be included in that knowledge base?

(3) What are the implications of staff development?

Current Status of Adult Learning

Even though the knowledge base of adult learning is sparse, adult educators have made significant contributions toward building adult learning theory. In 1926 when The Meaning of Adult Education was published, Eduard Lindeman laid the cornerstone for a modern theory of adult

learning, and launched the period, which lasted until 1942, that provided that most distinguished body of literature in the field of adult education. For it was Lindeman who first posited that (1) adults are motivated to learn as they experience needs and interests that learning will satisfy; (2) adults' orientation to learning is life-centered; (3) experience is the richest resource for adults' learning; (4) adults have a deep need to be self-directing; and (5) individual differences among people increase with age.[2] Space does not permit a thorough review of contributions since then. Consequently, this overview concentrates on some of the pertinent contributions to adult learning theory that have been made by adult educators throughout the 1970s.

Cyril Houle, who in the 1950s began his investigations on what motivates adults to participate in learning activities, has continued to develop his interpretations. In his most recent work, Continuing Learning in the Professions, he explores how and why professionals continue to learn.[3] He examines the motivation to learn in a programmatic context by focusing on the participant's mode of performance, based on the response to a new idea or practice as perceived by the individual. Houle proceeds to classify into five categories how professionals function as adult learners, according to the extent of their adaptation to innovation. The first four categories focus on active professional practice, while the last category concentrates on facilitation. The categories include[4]

(1) the innovators--those who constantly seek to improve their performance, but are not bound by established ways

(2) the pacesetters--those who value the opportunity to be exposed to new ideas and techniques, but maintain a conservative attitude toward their adoption

(3) the middle majority--those who gradually adopt innovation because those innovations have become generally accepted

(4) the laggards--those who learn only what they must know if they are to way in practice

(5) the facilitators--those who work outside the mainstream of practice, although their work is designed to uphold and strenghten it.

Self-directed learning is the focus of Allen Tough's work, which builds upon Houle's, and has particular bearing on the independent adult learner involved in staff development.[5] Tough has developed what amounts to a formula to identify the adult's learning effort, that he refers to as an "adult's learning project". According to him, an "adult's learning project" consists of a series of planned learning episodes concentrated on a given topic of interest and conducted over a given period of time. He asserts that the adult learner proceeds through three phases in the process of beginning a self-directed learning project. The first phase is deciding to begin, and involves goal-setting, self-assessment, information gathering, knowledge and skills selection, level of success, and a cost-benefit estimate. The second phase is choosing the planner, which may be him or herself, an object, another person, or a group, on a proactive and collaborative basis. Finally, the third phase is engaging in the learning episode which has been designed in the planning process, and entails the availability of a variety of quality resources and the learner's ability to use them.

The work of Roger Boshier, also furthers that of Houle. His research, in which he makes extensive use of the Education Participation Scale, concentrates on how motivation affects the behavior of participants in educational programs.[6] His model of motivation for participation, which reveals a heavy influence of Maslow's Heirarchy of Needs, describes participants as life-change (deficiency) or life-space (growth) oriented. According to Boshier, life-space oriented people participate for expression rather than for learning to cope with some aspect of their lives; life-change people participate because of the need to develop survival-directed knowledge, attitudes, or skills. Boshier is concerned with the psychosocial reasons for participations, and acknowledges that motives change as a function of age.

J. Roby Kidd also draws heavily on the work of Maslow in his exploration of the adult learner.[7] He places particular emphasis on the relationship between the learner and his or her developing self, and on the influence of life experience on learning. Kidd states that

> The learner reacts to all experience as he perceives it. The learner is at the center of experience; in a very real sense he occupies a 'private world'...However, experience is only potential; he can deny it to consciousness, distort it, or modify it. One man can react to an identical experience in a way markedly different from another...[8]

He then goes on to identify six dimensions of adult learning that focus on the individual's education for selfhood. They include the following

(1) The learner's reaction to experience involves his or her total being.

(2) Learning occurs when the individual perceives that his or her needs can be satisfied by certain courses of action.

(3) The learner's behavior can be fully understood only from his or her own perspective and point of view.

(4) The development of the self, which occurs gradually within the human being, is crucial for all learning.

(5) All of the learner's new experiences are symbolized and organized into some relationship to the self, which includes their being ignored, rejected, or distorted when the experience is perceived as being inconsistent with the structure of the self.

(6) Probably the most important learning task is the development of a self that can deal with reality.

Within the context of staff development, it is Kidd's premise that the adult learner, in terms of the self, must be committed or involved if effective learning is to take place.

In his massive compilation that purports to address adult learning in a developmental context, Alan Knox handles adult learning theory in an astoundingly circumscribed manner.[9] However, he does identify a series of factors that modify the learning and intellectual performance of the individual. They include characteristics such as physical condition, personal and social adjustment, relevance to the individual, speed and time pressures, socioeconomic status, social change, personal outlook, and personality. Three of those factors--

physical condition, social class, and personality--also are age-related in their effect on the adult's ability to learn. Furthermore, Knox points out that change is a major dynamic of adult learning. According to him,

> There are various ways in which adults try to adapt to change events. They include frantic activity, action, educative activity, seeking assistance, contemplation, and withdrawl. When a change event occurs, the need for adaptation tends to produce heightened readiness to engage in educative activity...[10]

He goes on to say that, "As adults match needs to opportunities, they tend also to expand their ability to relate knowledge resources to action problems."[11]

The only woman researcher in this group of adult educators, K. Patricia Cross has conducted innumerable analyses on the characteristics, needs, and interests of adult learners. Based on some of her recent research, she identifies three classifications of obstacles that keep adults from participating in organized learning activities: (1) situational barriers, arising from a person's situation in life at any given time; (2) dispositional barriers, attitudes about learning and perceptions of oneself as a learner; and (3) institutitonal barriers, erected by learning institutions or other organizations that exclude or discourage certain groups of learners.[12] She considers the motives of adult learners for partaking in learning activities as the single most important area to understand in planning programs for them. Cross points out that adults are highly pragmatic learners, who value most knowledge that is useful. She also notes that adults who have the basic necessities of life and are better educated are most likely to cite as motives internal rewards, such as personal satisfaction and the desire to learn. Furthermore, among adult learners, there seems to be a need for more active modes of learning.

Probably the best known adult educator, Malcolm Knowles is the leading proponent of the concept of andragogy, the art and science of teaching adults.[13] Andragogical theory is based on four main assumptions

about the adult learner that involve changes in self-concept, the role of experience, readiness to learn, and orientation to learning. According to Knowles, as the individual matures, his or her self-concept moves from one of total dependence to one of increasing self-directedness; s/he accumulates a growing reservoir of experiences which becomes an increasing learning resource and provides a broadening base from which to relate new learning; the readiness to learn is increasingly oriented to the developmental tasks of his or her evolving social roles; and there is a shift in learning from subject-centeredness to problem-centeredness. In designing and implementing training programs, Knowles reveals the following about the adult learning process.[14] (1) Adults, including educators, tend to underestimate their learning ability by over-emphasizing their early school experience and under-emphasizing their recent information learning experience. (2) Effective learning entails an active search for meaning in which new learning can build on current competencies. (3) While learning achievement is modified by the characteristics of the individual, almost any adult is able to learn almost any subject given sufficient time and attention. (4) Developmental changes in thinking that occur during adulthood, are reflected in problem-solving, critical thinking, and creativity.

Finally, an excellent analysis of the state of the art on adult learning theory has been conducted by Edwin Simpson of Northern Illinois University.[15] In addition to revealing to what extent learning theories abound, the progress being made in adult learning theory is expounded upon. In his synthesis of existing learning theory, he points out that

> Learning activities which are more complex and require conceptualization as well as abstract reasoning seem to be best explained through cognitive theories. Inductive and deductive reasoning based upon activities analysis, synthesis and evaluation in solving problems also may best be described through cognitive and gestalt-field theories. Affective learning requires consideration of theory which incorporates more that the essence of 'humanness' is necessary when one attempts to satisfactorily explain learning related attitudes and valuing.[16]

It is Simpson's contention that no comprehensive learning theory exists which takes into account the divergent learning that the adult experiences throughout a lifetime. However, he notes that adult educators emphasize two salient dimensions of adult learning which provide undergirding principles for a theory of adult learning. Those two principles identified by Simpson, are (1) autonomy of direction in the act of learning, and (2) integral use of personal experience as a learning resource.

This brief overview gives some sense of the kind of activity that has been taking place related to theory building in adult learning. Noteworthy, is the emphasis that adult educators place on the planning of programs for the adult learner. Also a number of other conclusions can be drawn from the work of this group of adult educators.

First of all, although no learning theory exists that is truly holistic--taking into consideration the total functioning of the person and his or her interactions with the environment--these adult educators acknowledge the need and desirability of such.

Second, thus far theory building in adult learning has tended to focus on relevance for practice, rather than on interpreting the individual adult learning process.

Third, even though existing theories of learning have explained certain conditions under which human learning takes place, we have yet to explain how the learner's analysis of personal life experiences reflects the intrinsic nature of the learning process.

Fourth, this sample of adult educators expressed common concerns about the intrinsic aspects of adult learning in terms of learner motivation, self-directed learning, developmental changes over the life span, and the obstacles or inhibitors faced by the adult learner.

Finally, researchers involved in theory building in adult learning are relying increasingly on a qualitative rather than on a quantitative interpretation that allows for the humanness factor in the adult learning process.

Other Dimensions of Adult Learning

Adult learning encompasses how we capitalize on cultivating and using our learning abilities and capacities throughout our adult years. The adult educators, while focusing on organized learning efforts, have barely scratched the surface of our adult learning potential. Therefore in order to acknowledge the full scope of adult learning, it is necessary to examine some other dimensions of our learning potential that also should be considered essential elements of quality staff development practices. Only two will be elaborated on here, the human mind and self-imposed limitations.

The Human Mind. In a recent National Geographic television special, "The Mysteries of the Mind," it was pointed out that even though the brain is the most powerful force on earth, it lacks the power to understand itself.[17] According to neuropsychiatrist Richard Restack, author of The Brain: The Last Frontier, the human being is the only known living animal whose brain is developed way beyond where he is.[18]

In her work, Supermind, Barbara Brown, expert on biofeedback, points out that

> ...The ultimate activity of thought--the faculty for introspection, for self-awareness, for self-analysis, and for analyzing one's own thought processess-is still a mysterious 'black box' of mind miracles that no man seems to dare to open.[19]

She goes on to say that while

> ...science does...know something about the necessary conditions for thought that can analyze and synthesize, and something about the necessary conditions for making decisions and evaluating our information, for establishing goals, formulating intentions. and developing defenses for personal survival...We understand nothing of the operations of mind that lead to the human qualities of loyalty, of love, of identity, of power or pleasure or understanding.[20]

According to Leslie Hart, author of How the Brain Works, our approaches to learning and learning theory are brain/mind-antagonistic.[21] He expounds upon the individual uniqueness of each brain and its intensely aggressive nature. Where learning is concerned, Hart reveals,

> The brain is now seen to be by no means the stimulus-response device presented in various behavioristic theories. We now know beyond question that it is elaborately 'gated.' That is, it will admit only those inputs it decides to admit, and each brain processes what it does admit in its own individual way...The processing depends little on what or how the teacher has presented, and greatly on the total, previous, stored experience in that particular brain.[22]

Hart also comments on the presumption of educators that they understand learning. He states

> It seems both amusing and astonishing that while few if any educators would undertake to teach the liver how to do its chemistry, or lungs how to exchange gases, many seem to feel that they can, and should, tell this magnificent brain how to work.[23]

In his provocative work, The Metaphoric Mind, author Bob Samples contends that we favor the rational, analytic, left half or our brain, and have lost touch with the right half which governs our intuition, our emotions, and our creative consciousness.[24] He blames the left-hemisphere dominance of our culture with its language and linear-sequential ordering of time for suppressing the holistic and cyclical

BROOM HILDA
by Russell Myers
Intellect VS. Intuition
ROUND ONE
DEFINITIONS:
Intellect: COLLECTION OF LEARNED FACTS, NO GUARANTEE OF RELEVANCY.
Intuition: INSPIRATION AND PERCEPTION SPRINGING FROM UNLIMITED RESERVOIR OF INNER TRUTH
Intellect: DON'T CROSS. EACH YEAR THOUSANDS DIE IN TRAFFIC ACCIDENTS.
Intuition: DANGER!
Intellect: DIFFERENT SUBTLE HUES COMBINED INTO A HARMONIOUS MASS.
Intuition: PRETTY!
Intellect: CHARACTER DISORDER RESULTING IN CHRONIC IRRITABILITY.
Intuition: DUCK!
SCORE
Intellect 0 Intuition 1

thoughts and perceptions of the metaphoric mind. Samples asserts that

> Humans have created cultures that systematically deny the fulfillment of the individual. Cultures were born, matured, and died in an awesome parade of variations on the human theme...and no culture systematically nurtured all the qualities of human potential.[25]

Samples identifies the human tendencies of intellectuality, emotionality, and sexuality as the basic qualities of intrinsic motivation with spirituality at the peak. He argues for equilibrium, a positive balance between the rational and creative parts of the mind, and states

> The metaphoric mind probably houses most of Sexuality. The rational mind probably favors Intellectuality. Emotionality probably exists in both hemispheres. On the left it 'feels good' with rationality and order. On the right it is thrilled by doing and exploring. One side celebrates affirmation; the other celebrates invention. And again...equilibrium nurtures the qualities of growth and strength.[26]

Even though the human mind remains a mystery, it is the core of our learning abilities and potential, and as such it must be addressed in any comprehensive theory of adult learning. In terms of staff development, learning should be viewed as limitless. We simply do not know what we are capable of, but we do know that our potential is beyond our comprehesion at this time.

Self-Imposed Limitations. Self-imposed limitations are the mental barriers that we build to protect ourselves from what we do not know or understand. They are expressed through the attitudes, values, beliefs, and behaviors that we assume and hang onto in an effort to maintain the comfort of the known and familiar status quo. Self-imposed limitations are a direct response to our resistance to change that involves a basic fear of the unknown and uncertain.

A possible explanation of how we allow ourselves to become victimized by our own self-imposed limitations is provided by philosopher Rene Dubos, who addresses the creative processes of the human mind. In his work, Mirage of Health, he examines the biological and social adaptation that we undergo throughout our existence in the living world, which he interprets as being both a struggle and a partnership.[27] Dubos points out that our desire for change sets us apart from other living things by leading us to a life of adventure, and away from the environment to which we are biologically adapted. He explains

> While it may be comforting to imagine a life free of stresses and strains in a carefree world, this will remain an idle dream. Man cannot hope to find another paradise on earth, because paradise is a static concept while human life is a dynamic process...the earth is not a resting place. Man has elected to fight, not necessarily for himself, but for a process of emotional, intellectual, and ethical growth that goes on forever. To grow in the midst of dangers is the fate of the human race, because it is the law of the spirit [that is, the human mind].[28]

In an effort to avoid the struggle Dubos refers to, we succumb to our self-imposed limitations. In order for our talents to develop fully, we must work to overcome these restrictive forces.

It is self-imposed limitations that interfere most with the adult learning process. Therefore it is essential that adult learning theory not neglect this factor, and by the same token that those of us involved with developing and conducting staff development activities acknowledge self-imposed limitations as major inhibitors to learning.

These two "other" dimensions of adult learning represent critical omissions concerning existing views and interpretations of adult learning that have significant implications for theory building in the area. It is obvious that our knowledge base pertaining to the human mind is extremely limited. However, it is growing rapidly. Therefore, it behooves educators, especially those of us involved with staff development, to correct the negligence in acknowledging the significance of brain/mind power and the

uniqueness and individuality of each person's mind as it relates to the teaching-learning process. In terms of self-imposed limitations, our knowledge base is even more limited, since these highly individual mind obstacles have yet to be given proper recognition in our interpretations of learning and individual performance. Where staff development in concerned, in order to achieve maximum success in training endeavors, it will be important to create means by which the adult learner can overcome his or her self-imposed limitations, so that the response to new learning can be enhanced and redirecting old patterns of learning into more constructive means can be facilitated.

Contributions of Developmentalists

With their focus on life span development, the developmentalists have been making important inroads into furthering our understanding of the impact of life experience on our personal growth. However, like the adult educators, they too, have limited their interpretations. In order to get a better understanding of the relevance of their contributions to building a theory of adult learning, it was necessary to conduct a comparative analysis of some twenty interpretations of adult development. The reasons for conducting the analysis were to find out: (1) how adulthood is being interpreted; (2) how adult learning is being addressed; (3) where there is consensus; (4) where the gaps are; and (5) how these various interpretations relate to the theoretical models being developed. What follows is a synthesis of that analysis. The analysis was intended to provide the broadest possible representations, therefore liberty was taken of incorporating some models that have not been previously identified in terms of adult development. The twenty models selected fall into three categories: (1) linear, (2) hierarchical, and (3) unclassified. They represent the interpretations of sociologists, psychologists, gerontologists, and educators.

Linear Models. The linear models have been the easiest to plot, since they all attempt to build their theoretical perspectives on the basis of chronological age and commensurate changes over the life span. In each one, a clustering pattern is the major determinant for establish-

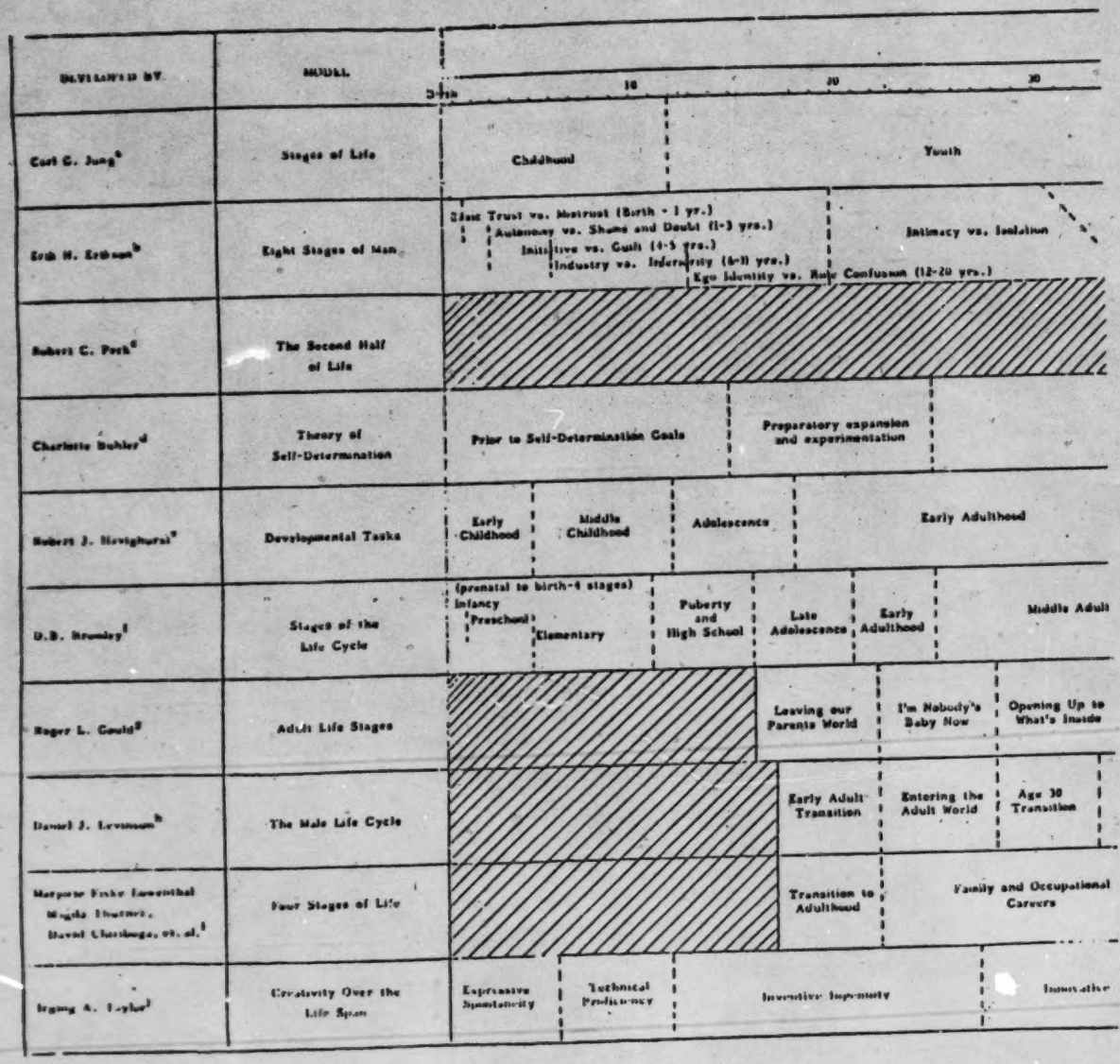
ing the various phases or stages of the developmental sequence. This clustering is based on the occurrence of certain life events at particular points in the life span, as well as the emergence and prominence of certain personal moods that tends to characterize a given period. Even though rather simplistic, Figure 1 provides a graphic comparison of the ten linear models. Without going into the details of each model identified, these theories have the following in common. (1) The interpretation of adult development is on the basis of phases or stages in the chronology of a lifetime. (2) With the exception of Peck, who was selected for his distinction, concentration is on the first fifty years of life. (3) And, none adequately addresses the totality of elements, forces, and circumstances that influence development throughout adulthood.

Hierarchical Models. Unlike the linear models, the hierarchical models have not been plotted on a chronological basis, although for purposes of comparison it was necessary to do so. Fortunately these five models easily fit into a chronological scheme as is reflected in Figure 2. Although the developmental progression of the hierarchical models are not age or stage dependent, but rather according to levels of ascendency, growth is determined on the basis of mastering one level before the individual can proceed to the next one. This group of developmental theories is much more direct in expressing a relationship to learning, and is particularly sensitive to the affective aspects. It should be noted that Maslow, Kohlberg, and Rogers also have been frequently classified as learning theorists. These hierarchical models come closest to providing an holistic interpretation of learning. However, none adequately addresses the extrinsic forces that influence development throughout adulthood.

Unclassified Models. Because of their diversity and deviation from either the linear or hierarchical models of development, the unclassified models are not conducive to a categorical interpretation. Nonetheless, five models have been selected on the basis of their relevance to interpreting adult learning from a developmental perspective.

Figure 1

Linear Models of Adult Development



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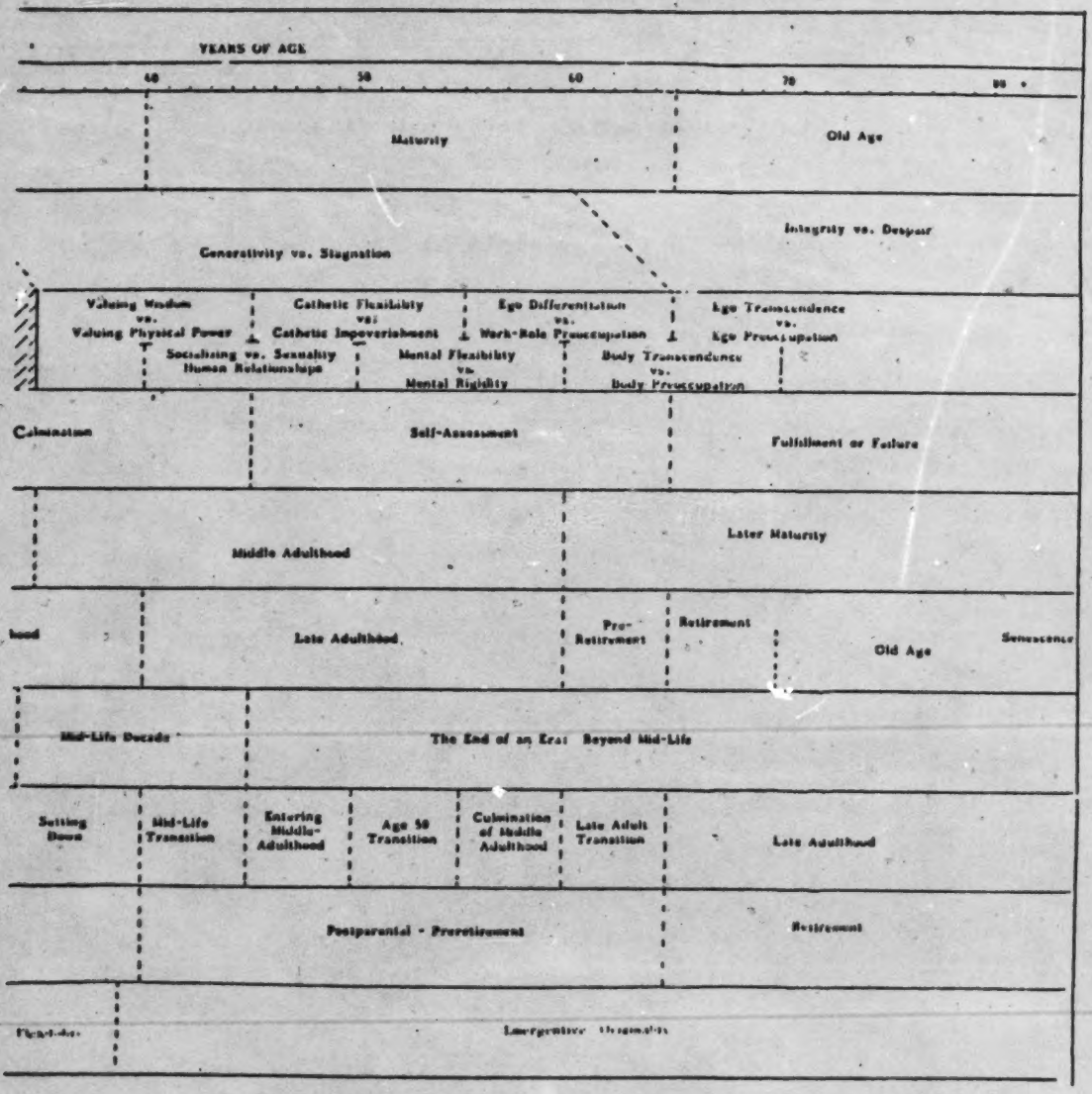

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The five models chosen include (1) the transcultural model of maturing, (2) the social phenomenological model, (3) the theory of margin, (4) the theory of disengagement, and (5) the activity theory of aging. The transcultural model of maturing considers the similarity of emotional maturity across cultures by focusing on competence in terms of general personality traits associated with effectiveness in adapting to the many complex environmental demands facing the individual as he or she develops.[29] In the social phenomenological model, development is based on the way in which people negotiate and determine their own social interaction which is accomplished through distinct social processes.[30] Adulthood, as described by the theory of margin, is a period of integration and self-protection in which the interaction between a person's capacities and load, that is the level of demand on one's capacities, is a critical factor influencing development.[31] The theory of disengagement assumes decreased social interaction reflecting the mutual withdrawal by society and the aging person; where human development is concerned the individual's withdrawal encompasses decreased emotional involvement in social activities and relationships.[32] Finally, the activity theory of aging is based on the premise that "there is a positive relationship between activity and life satisfaction and that the greater the role loss, the lower the life satisfaction."[33]

Through this select, although brief, review of developmental perspectives on adulthood, the five reasons for conducting the analysis were satisfied.

First of all, a broad range of interpretations of adulthood exists, with age and stage and personality development dominating theoretical interpretations. The diversity in interpretations further highlights the complexity of adult development, and the fact that we undergo continual and dramatic change over our life spans. In addition the University of Chicago Group, which has included Erickson, Neugarten, Havighurst, and Peck to name a few of the notables, has probably had the greatest influence concerning existing interpretations of adult development.

Second, adult learning is inadvertently addressed by all of the developmental approaches by virtue of their emphasis on adaptation to change in the maturation process. However, of the linear models, only those of Havighurst and Taylor concentrate on the learning aspects of development. Generally, the hierarchial models come the closest to approaching learning in the context of a developmental framework, while none of the unclassified models actually connect learning to the developmental process.

Third, the knowledge gaps in adult development are vast and the developmentalists, unfortunately, have contributed little to furthering our understanding of the adult learning process. This may, in part, be due to the nominal number of educators involved in interpreting adult development from a learning perspective, since only recently have they indicated an interest, and this interest is not yet reflected in the literature.

Finally, regarding adult learning theory, it is evident that a comprehensive theory of adult development does not exist, neither does an adequate interpretation of adult learning from a developmental perspective. However, the developmentalists have provided (1) insights into the intricacies and complexities of adult development; (2) a substantial body of knowledge on which to build; and (3) a rationale and justification for the continued pursuit of a comprehensive interpretation of adult learning from a developmental perspective.

This journey through the hidden recesses of adult learning has been directed toward clarifying the relationship of adult learning theory to staff development. The intention has been to address those areas that provide insights into the knowledge base of adult learning and the ramifications for the adult learner involved in the training processes. In that regard, the implications that all this has on professional staff development are presented.

1. In terms of the future of learning, we educators are on the forefront of social change, but have not yet acknowledged our prominence in the future. With the rapidly expanding knowledge society,

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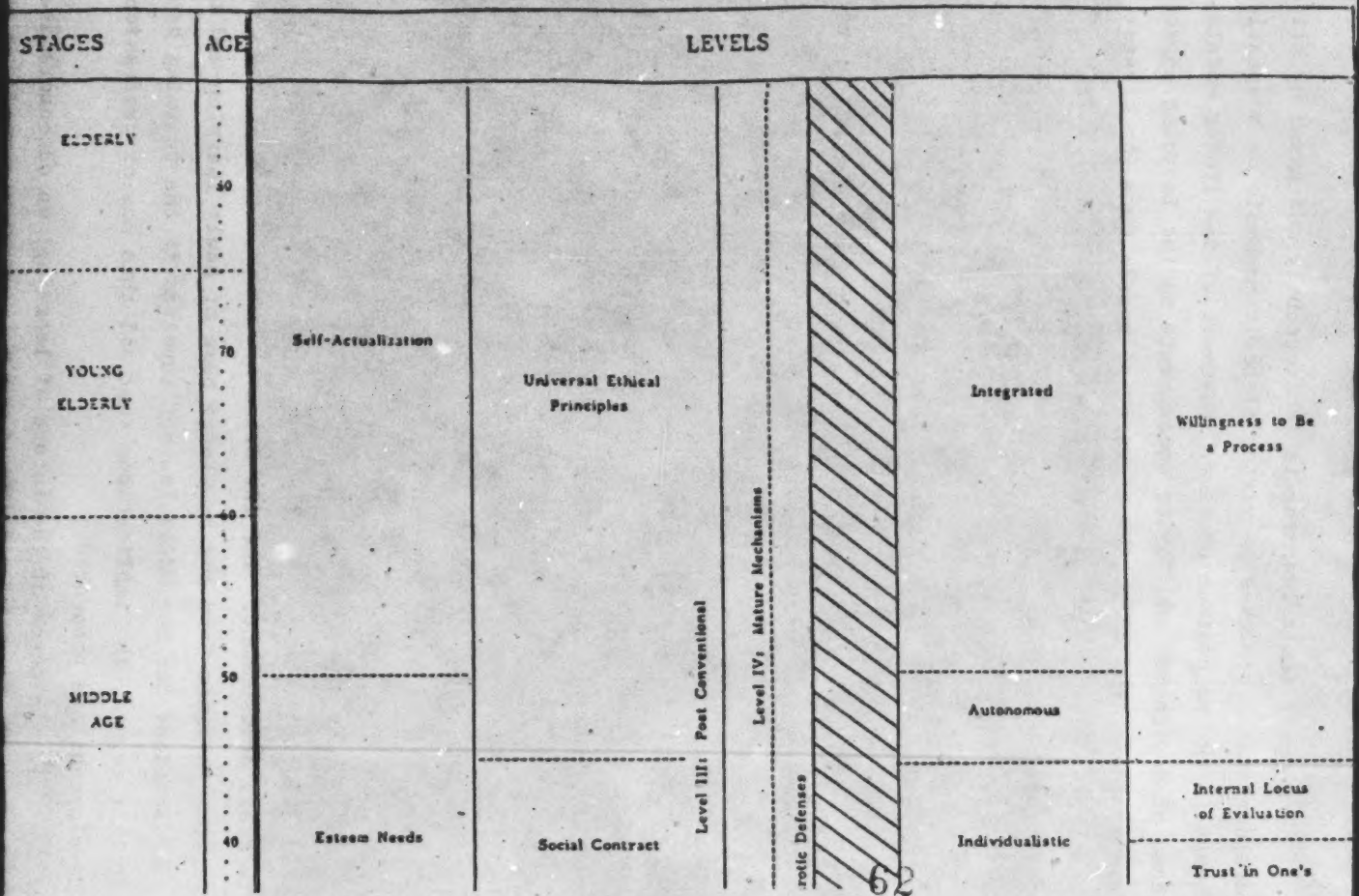
Figure 2

Hierarchical Models of Adult Development



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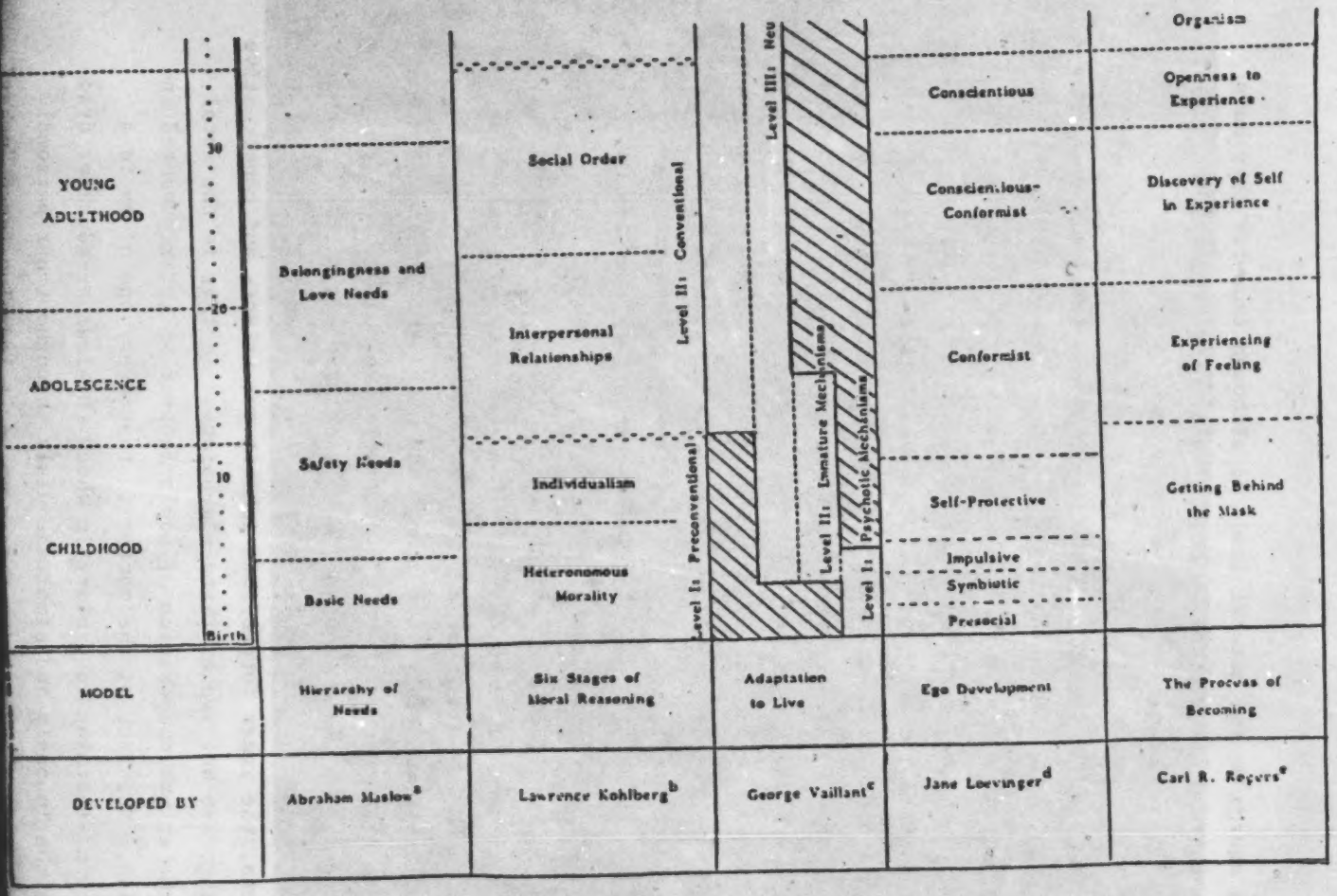

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educators emerge as the natural leaders, although thus far they have been reluctant to assume the leadership role. Furthermore, the entire training arena continues to grow as the demand for an adequately prepared labor force increases--it is clearly one of the growth occupations of the future. Where adult learning theory and staff development are concerned, we should be on the forefront of discoveries, innovations, and leadership in any area where training is a primary function.

2. In terms of the current status of adult learning, the most significant contributions have been made by adult educators. Their interpretations of adult learning have focused upon participation and practice as they relate to organized learning, while they have only nominally addressed the adult learning process, itself. We still are far from knowing how adults learn. However, more than any other group of educators, they readily acknowledge the importance of affective learning and the influence of life experiences on the learning process. Even though theory building in adult learning is in its infancy, those of us involved in staff development can benefit from the foundation in adult learning provided by adult educators. In addition, we should be encouraged to contribute to that knowledge base, given our rich backgrounds in adult learning in the context of training.

3. In terms of "other" dimensions of adult learning, if we are to obtain a true understanding of the nature and extent of our adult learning potential, we must extend beyond existing parameters of knowledge and thought. The human mind, the core of learning, and self-imposed limitations, the inner forces that inhibit our talents and constructive risk-taking, are but two of those dimensions. Another is the total person, the entire composition of adult learner as interconnected and interactive. The fact of the matter is that every one of us is a unique living-learning laboratory in which the learner-educator dyad functions continuously and simultaneoulsly throughout our personal life span. In a comprehensive theory of adult learning these "other" dimensions must also be addressed. For staff development, these "other" dimensions should serve to stimulate new interpretations and

new approaches to training that acknowledge the uniqueness of the individual adult learner, including the trainer, while operating in a collective learning environment. The challenge is before us!

4. In terms of the developmentalists, educators seem to have an unabashed romance going that involves the connection between adult learning and adult development. Clearly the developmentalists have made us acutely aware of the major developmental changes that occur during adulthood, as well as the intricacies and complexities of our lives that contribute to our diversity and uniqueness as individuals. However, their contributions do not naturally fit into what is known about adult learning. Indeed, it appears as though they have left that part of the interpretation up to us, and we have not, until very recently, taken the assignment seriously. As a result, our knowledge base in this area is extremely limited. A comprehensive theory of adult learning must also take into account the effects of developmental change on the learning process. Regarding staff development, the developmental perspectives provide marvelous tools, and only that, for providing insights into the behavior and performance of the adult learner. Much work remains to be done in this area, especially where the adult learning connection is concerned.

5. In terms of the reality of adult learning theory and staff development, the relationship between adult learning and staff development is a symbiotic one that makes them virtually inseparable, even though there is an absence of cogent adult learning theory. The recent acknowledgement that educators participating in staff development activities are also adult learners is starting to take hold. What to do about that acknowledgement is the critical issue at hand, especially since our knowledge base in that area, on all fronts, is so wanting. As has been stated repeatedly throughout this discussion, we know very little about how adults learn, and are just starting to recognize the intricate, multidimensional nature of the adult learning process.

On that note, one final thought. There is mounting evidence that whether we approach it through experience, theory, or research, the concentration that formal education places on the cognitive aspects of learning barely scratches the surface of our learning potential. In that regard, the affective aspects of learning, which encompass attitudes and emotions, intuitive and reflective learning, are receiving increased attention as a critical void in our knowledge and understanding of human learning processes and capacities. Indeed, the key to successful functioning rests within our ability to grasp and manage the *real basics* of attitudes, feelings, and values (not "reading, 'riting, and 'rithmetic), that are cultivated within the unknown recesses of our minds. It may well be that the cognitive aspects of learning represent the most primitive dimensions of our learning potential, and that we have only just begun to transcend them through the use of our other under-utilized, albeit mysterious mental capacities. As Lewis Thomas, author of The Medusa and the Snail, states

> ...if we had only a single center in our brains, capable of responding only when a correct decision was to be made, instead of the jumble of different, credulous, easily conned clusters of neurones that provide for being flung off into blind alleys, up trees, down dead ends, out into blue sky, along wrong turnings, around bends, we could only stay the way we are today, stuck fast.[34]

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V

Key Concepts of Adult Learning Potential Applied to Staff Development

Educators who are involved in developing and implementing staff development activities have only very recently begun to view training participants as adult learners. Inservice educators, have tended to view neither themselves nor their training participants as adult learners, although it should be obvious that both are. One reason for this oversight is that as trainers, no formal preparation for understanding adult learning processes in terms of the developmental changes which take place over the life span has been provided.

A second reason that trainers overlook their identity as adults is that there simply is a dearth of knowledge on how adults learn and what changes in learning patterns occur as we mature. Futhermore, in terms of the preparation to become trainers, interest and experience are the two major qualifying criteria. And unfortunately, many of us are operating under the erroneous assumption that as we pass through adulthood we get more alike rather than less alike. The truth is that our individual diversity increases as we mature, making us more and more unique as unduplicatible individuals as we do so. Yet the training practices employed continue to lump participants into homogeneous groups with homogeneious expectations and anticipated outcomes.

Inservice educators need to view themselves as well as inservice participants from a "total person" perspective. This necessitates taking into consideration individual differences in terms of needs, values, interests, attitudes, beliefs, and abilities. The rapid technological change that continues to occur, and the ever-increasing information explosion that faces this society and the world makes it imperative for adult learners, including inservice educators, to use both their learning and unlearning capacities. The skills of unlearning can be viewed as the skills for accommodating change. Change is a constant dynamic of our existence. Recognition of and adaptation to the myriad of factors that

impact upon us throughout our lives, open new vistas for exploring and cultivating our own, special, adult learning potential. We need to keep in mind that most people operate on a system overload. Therefore, if staff development efforts are to be effective, it behooves inservice educators to be sensitive to the tensions affecting participants when they enter the staff development environment.

Affective Learning Dominates

Training is the major formal learning activity of adults. Like elementary and secondary school curricula, training programs focus upon cognitive learning abilities. Even though we know that most of our learning occurs in the affective on an informal, experiential basis, and increasingly so as we progress through the life span, when we approach learning in its formal education sense, it is clearly unevenly skewed toward its cognitive dimensions. This discussion will concentrate on the affective dimensions of adult learning potential, encompassing our feelings, values, attitudes, and beliefs that we express through our behavior. The major facilitator of affective learning is motivation, most often prompted by some form of stress or tension, which may be either positive or negative. The ultimate of our human learning capacities rests with our individual abilities to manage, handle, cope with the multitude of stress-causing elements and episodes that impact upon each and every one of us throughout our life time.

Although the affective aspects of our learning capacities and performances dominate our adult years, they are not adequately addressed by inservice educators involved in staff development. Within the context of affective learning, four concepts related to adult learning potential as applied to staff developemnt will be

explored. These concepts are

1) Life events as learning lessons
2) Layering as a developmental process
3) Motivation as the key activator, and
4) Unlearning as a creative function

Applied to our development through the life span, each of these concepts addresses a critical factor that influences the form and functioning of our personal adult learning process.

1. Life Events as Learning Lessons

The critical factor of this first concept is the life events we experience. Life events encompass the adventures we pursue and the tragedies that befall us. When we experience the death of a friend, remarriage, a sudden illness, conducting a workshop, or being fired from a job, we are experiencing a life event. As life events occur, they naturally bring about change in our entire life system. While we undergo many similar types of life events, the sequence, the configuration, the response set, and the ultimate outcome of each one is unique and cannot be duplicated by any other person.

As we progress through our lives, we become more and more able to influence the life events we experience. We are constantly building response patterns based on our life events. This building process allows us to transfer those response patterns from past life events we have undergone to new life events we are now encountering. Thereby we accumulate a broad range of alternative responses to use through our lives as varied and numerous life events continue to occur. Our responses to life experiences reinforce certain patterns of response, while causing us to set aside others. Whether or not we are able to recognize the repertoire of responses available to us and apply any one of them, is determined by our ability to anticipate and to accommodate the innumerable life events we experience.

We can examine and handle our response patterns to given life events through the use of a five-step sequence that involves

Step One: Identification-- occurs when we recognize a life event we have experienced by acknowledging it;

Step Two: Selection--occurs when we choose a response or set of responses to the life event from our available repertoire of responses in keeping with our sense of self;

Step Three: Performance--happens as we act out our selected responses and thereby determine the appropriateness of fit;

Step Four: Modification--takes place by practicing and making changes in our selected response set to accommodate our interpretation of the life event; and finally,

Step Five: Adoption--when through repeated performance of the selected responses, modification is completed as the action becomes part of us and adds to or reinforces our repertoire of responses.

Through this sequence, the life events we experience actually facilitate the use of our learning capacities as we learn to express our feelings, attitudes, and beliefs; examine them; practice them; and alter them in keeping with our developing self.

As we experience our life events, we develop our decision-making capacities and our problem-solving abilities. It is through these two operations that we opt for certain responses and discard others. We simply keep what seems to work for us. Thus we refine our response options to a few selections, that we choose to rely upon over and over again, meanwhile keeping the multitude of others in abeyance in our subconscious. Life events are the lessons of life we undergo continuously, and our responses are the tests of our endurance and understanding as we incorporate them into our personal being. How we handle the life events we experience reveals to what extent we have been able to teach ourselves those responses which are most beneficial and compatible to our being.

2. Layering as a Resource Data Bank

Layering focuses upon our accumulating, sorting through, and storing our attitudes, beliefs, knowledge, values, feelings, skills, and behaviors as we develop. It is a process of accumulation based on the premise that as we proceed through our ages and stages, we collect the various pieces of our lives and save them for future reference.

Every development stage represents a building block in our development that consists of our innumerable life experiences. Each life event we experience contributes to the particular developmental stage in which it occurs, as well as to succeeding stages. Connecting the life events are bands of time that run through each block. As we progress from one stage to another, we place the block of a completed stage on top of the one preceding it, and so on through our entire life.

As life events make up our learning lessons, so layering serves as our resource data bank, that we rely upon when we are confronted with concerns demanding resolution. By housing our life experiences, it provides us with a broad repertorie of responses to choose from in response to any given situation. In terms of staff development and inservice, the concepts of life events and layering provide a means for interpreting where we are, where we have been, and where we want to go. What influences our interpretation is the prime mover of our adult learning potential, motivation, the major factor of the third key concept.

3. Motivation as the Key Activator

Although adequate research methodology to examine the affective aspects of adult learning potential is sadly lacking, motivation research comes closest to providing us with a concrete body of knowledge that contributes significantly to our understanding of those affective dimensions. Most research in the area of motivation that focuses on the adult learner emanates from the world of work outside of education. All of us are familiar with the work of one of the most

outstanding contributors to motivation theory, Abraham Maslow with his hierarchy of needs and his concept of self-actualization. Some of us are familiar with Frederick Herzberg's motivation-hygiene theory, David McClelland's need achievement theory, and Douglas McGregor's Theory X - Theory Y to name a few of the more prominent motivation-work theories. Most of us, however, have not had adequate exposure to any theories of motivaton because they have yet to be applied to working adults in the education arena.

Motivation is the drive we exhibit toward achieving a goal or desire. It is motivation that moves us to change as we pursue some aspect of personal life satisfaction. Motivation encompasses an interwoven amalgamation of both creativity and stress. Crucial to cultivating our motivation energies are our unique and highly individual interpretations of how we view ourselves, our life experiences, and our relationships with others. It also encompasses how we perceive the intensity of the external world around us in terms of its demands and roles, including how we see time and the life cycle. Mediated by our dominant concerns and expectations, our perceptions are directly related to influencing to what extent and by what means we are willing and able to change our behavior.

At the core of motivation is the stress we feel in response to a life event we have experienced that in turn prompts us to act. Hans Selye, referred to as the "Father of Stress," views stress from the perspectives of health and self-fulfillment.[1] Central to his view is the notion of "adaptation energy" which, according to him,

allows our body and mind to respond to stress and to learning to cope with it. The significnace of Selye's theory on stress is based on his notion of "eustress" which presupposes that we have some choice in effectively channeling our stress and coping with it without excessive duress. Implicit in Selye's "eustress" concept is our ability to cultivate a positive attitude in accepting what is an unalterable event. What is alterable is man's response to that event. That Selye views stress as essential for living as well as constant throughout life, is revealed in his statements "stress is the spice of life," and "life without stress is death."

As inservice educators we can prepare ourselves for understanding how stress affects adult learning capacities by noting that (1) stress is constant, (2) it is complex, (3) it motivates, and (4) it contributes to learning. That being the case, it is imperative that we discover how to create or nurture that form of stress which motivates us, as well as our training participants, to perform and achieve.

4. Unlearning as a Creative Function

While stress stimulates motivation, unlearning as a creative process, and the major factor of the fourth and final concept, serves to facilitate its positive and constructive outcomes where our adult learning potential is concerned. The function of unlearning does not mean to imply that we erase what has been learned, but rather that we undo past learning that is no longer useful or that is an obstacle to new and useful means. Let us look at two perspectives of unlearning. In his well-known work Deschooling Society, Ivan Illich reveals one aspect of unlearning. He states

> People who have been schooled down to size let unmeasured experience slip out of their hands. To them, what cannot be measured becomes secondary, threatening. They do not have to be robbed of their creativity. Under instruction, they have unlearned to 'do' their thing or 'be' themselves, and value only what has been made or could be made.[2]

Unfortunately, this interpretation can be aptly applied to many of the training activities we conduct. Another view is that presented by John A.B. McLeisch in his work The Ulyssean Adult. He recognizes the need for unlearning when he points out that

> Part of the individual trauma in the fact of challenge to customary ways of thought is that people often have a good deal of unlearning to do before they can carry through the creative act which must be done if they are to solve the problem, create, or achieve some other breakthrough. This unlearning or repudiation of things learned long, long ago may be intensely difficult because of the rigidity and conventionality with which we all get locked into habits, patterns, and rubrics of thought.[3]

In terms of unlearning, we need to acknowledge the reality of those inhibiting learning patterns of the past that no longer nurture or facilitate our adult learning potential or that of our training participants. We must be willing to forego those patterns as we develop new learning modes that will instead stimulate our adult learning potential. It may well be that given our "schooling" orientation, we are guilty of applying the same expectations and approaches that we have used with children to our adult learning participants because we are locked into a mind set that has kept us from discovering available alternatives outside of the education arena.

What Can We Expect?

Using the four concepts, the following scenario relating adult learning potential to staff development is presented.

Important to effective staff development is an understanding of the work environment from which our training participants come. In applying concept one, life events as learning lessons, let us take a look at the negative factors many educators face in their work environment that contribute to disenchantment with the teaching profession. Some of those factors include: (1) increasing school violence, (2) decreasing budgets, (3) declining enrollments, (4) closing schools, (5) a limited career ladder, (6) job displacement, (7) boredom,

(8) professional disillusionment, (9) students lacking discipline, and (10) low occupational self-esteem. Any one of these factors can contribute to the occurence of a significant life event such as physical assault by students, unemployment, or career change, which in turn will have a dramatic effect on participant responsiveness to the training environment.

With those insights into the work environment, let us now take a look at both the trainer and the trainee as adult learners, in particular the neglected population--those educators between the ages of 35 and 60. In terms of the second concept pertinent to understanding our adult learning potential, layering as a developmental process, we should know that during this age span we tend to

- .be more aware of social conformity
- .be more cautious
- .require more information prior to solving a presented problem
- .demand more relevance in a given situation, and
- .use strategies that appear to be more important than the solution to the problem.

The process of layering has been instrumental in all five tendencies.

Further, in terms of the block of middle age that we are building as we continue to layer, we should consider these facts:

- .regardless of age, bright people solve problems better than dull people
- .young adults do not appear to solve problems better than older adults
- .most people weigh the most they ever do in their lives between the ages of 35 and 59
- .there is no demonstrable decrement in cognition through the ages of 40 and 60 in the use of information and skills already achieved
- .the cognitive performance of middle-aged people is relatively unaffected by the passage of time
- .middle-aged people use the more mature defense mechanisms of suppression, humor, altruism, anticipation, and sublimation, as opposed to the immature ones of denial and rationalization

.activity level is one characteristic that stays most stable over the life span--quick and speedy, rapid-tempo children generally become quick and speedy 40 and 50 year olds

.middle age is a period of heightened sensitivity to our position within the complex social environment we live in

.reassessment is a prevailing theme

.during middle age, our mental life encompasses taking stock, increased introspection, and restructuring based on our life experience.

Based on those descriptors of the middle-aged educator population, we now have some sense of what we should be considering as we begin to identify intrinsic incentives for participating in staff development activities. In this regard, the third concept pertinent to nurturing our adult learning potential, motivation as the key activator, comes to fore. Where motivation is concerned, staff development efforts need to address five basic reasons that influence participation. These reasons include the following:

1. Learning for relevance--Especially during adulthood, most of our learning activity is focused on the affective, and is life-experience related.

2. Learning as a resource--The reservoir of experiences we accumulate as we mature becomes an increasingly valuable learning resource and provides an ever-broadening base to relate new learning.

3. Learning for satisfaction--As adults, we are motivated to learn as we experience needs and interests that learning will satisfy. Therefore, we can safely assume that problem-solving involves the coordination of our need-to-know and our readiness-to-learn.

4. Learning for adaptation--the developmental changes that occur in our thinking throughout adulthood are reflected in problem-solving, critical thinking, and creativity. And probably, the best criteria for evaluating our success in using these three abilities are social competence and coping effectively.

5. Learning for personal worth--For us, discovering how to learn from experience and being able to apply this learning successfully is the key to self-fulfillment and life satisfaction.

Finally, to further facilitate the satisfaction we seek through our intrinsic incentives, the fourth concept, unlearning as a creative function, becomes a vital operation. Part of that operation involves our being cognizant of four dynamics of creative change that should be occurring as part of unlearning. They include valuing

-wisdom over physical prowess. We must come to accept the inevitable loss of physical strength and attractiveness as part of the aging process and learn to use our life experiences.

-socialization over sexualization. Our social interactions must become the focus of human relationships, as we redefine the people who are already in our lives and the new ones who enter as individuals and as companions.

-changing for the future over lingering on the past. We must be able to demonstrate the capacity to shift our emotional investments to new ones, as old roles, people and activities lose their potential for satisfaction.

-flexibility over rigidity. We must maintain mental flexibility by using our personal experience as a provisional guideline, and replace our tendency to rely on experience as a fixed and automatic justification for rules of thought and behavior.

Hopefully this scenario has provided those dimensions of adult learning potential (note their affective nature) that have particular impact on designing and implementing effective staff development programs. In so doing, we should not lose sight of the fact that what is of paramount importance is the person, not the program.

In Conclusion...

In conclusion, inservice educators, by virtue of their role and function have assumed the responsibility to serve as change agents through staff development and inservice efforts. If they are going to

be successful in capitalizing on the adult learning potential of their training participants, as change agents they will need to

- .become more creative in approaching life events
- .be more risk-taking in exploring new and possible means for managing their lives
- .look beyond traditional limits and self-imposed parameters to expanding their experience base with untried (but not unreasonable) options
- .explore the unknown and find out just how many choices there really are
- .develop options by always anticipating alternative outcomes
- .make the negative positive by changing perceptions and modifying their own behavior
- .see life from a "total person" perspective, including the uniqueness of others, and
- .most of all, direct themselves to where they wish to go.

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VI

Inservice Training: Higher Education versus Public School System

With declining student enrollments characteristic of both public school systems and schools of education in higher education, the ideal circumstance has emerged for innovation and cooperation between these two entities. An obvious unifying factor is inservice training with its captive audience of existing educators within school systems. Nonetheless, what is becoming obvious is the insular and myopic positions taken by each. With the lack of response of higher education, public school systems have increasingly taken it on themselves to satisfy whatever inservice training needs exist. In an effort to maintain its precious but decreasing territory of undergraduate and graduate degree programs preparing educators, higher education has virtually discarded the opportunity for constructive and collaborative creative change.

Since school systems are carrying the burden of inservice training, the myth has been perpetuated that "because you teach, you can train." Academicians in higher education are summarily rejected and ignored in efforts to provide assistance to the designing and implementing of inservice training activities. Justification provided by school-system personnel responsible for conducting the in-service training is that academicians are not sufficiently field-experienced and are, in essence, obsolete or too theoretical in their response to current needs, trends, and activities relating to elementary and secondary education. As a result, the primary input of higher education into inservice training is through consulting services, which usually consist of a handful of professors, at the request of the school system, making a special presentation to a group of teachers in training.

There is no doubt that higher education, with its primary task of providing degree-granting programs, has been unresponsive to addressing the inservice training needs of school systems. Moreover, it has also been guilty of establishing and perpetuating the elitist perspective

that exalts research and denigrates field experience. Inronically, schools of education--which are supposed to represent that field of study pertaining primarily to methods of teaching and learning in schools--thus far have been unable to justify their involvement with inservice training in other than a cursory manner. A critical need, and one which higher education is ideally suited to address, is the training of trainers conducting inservice programs. However, this has not yet been identified in any discipline as being academically useful or valid.

Problems Faced By School Systems

School systems are beleaguered by problems pertaining to in-service training. Many of the problems relate to the current dilemma revolving around the provision of inservice training, and are the result of declining student enrollments in schools and compliance with federal legislation. The declining student enrollments have resulted in a surplus of teachers on the one hand, with shortages of teachers in critical skills areas remaining, and in some instances even increasing, on the other hand. These problems are made conspicuously apparent by the Education of All Handicapped Children Act of 1975, which mandates the inservice training of virtually all education-related personnel in local school systems. Despite the mandate, the techniques of compliance have yet to be arranged in any comprehensive order. In addressing inservice training, some of the more critical problems faced by school systems encompass the following: (1) crisis orientation, (2) skills re-training and upgrading, (3) location of qualified training personnel, and (4) program planning.

Crisis Orientation. In most instances, school systems operate on the basis of addressing the current education needs of local communities. There is little evidence to suggest that projections of trends in education have been given serious consideration in the planning process. Therefore, a function of the "now" philosophy of most school systems is the necessity for immediate response to crises. Due to the teacher surplus and the entry of handicapped children and youth—

into the regular classroom, inservice training has been catapulted into the crisis arena. While there has existed sufficient and substantial data concerning the rate of growth or decline in pupil population, it has been summarily ignored by school-system planners. In addition, the obvious and substantial pattern of activity in legislation and education programs concerning the handicapped has also been set aside, as school systems continue to concentrate on the building of new schools and on trying new teaching approaches, such as open education and competency-based education. Having now reached crisis proportions, inservice training at last is being seriously, if haphazardly, addressed, even though the need has always been there.

Skills retraining and upgrading. With the so-called teacher surplus, two critical training tasks have emerged: (1) the re-training of surplus teachers for those skills areas where teacher shortages exist; and (2) the upgrading of skills of regular teachers, especially in the teaching of handicapped children and youth. However, there is considerable question and much reservation, based on the record of inservice training, concerning the ability of inservice training to satisfactorily accomplish either task. In terms of the feasibility of re-training, there is a critical void of data to indicate whether or not such training has been occurring, and, if it has, to what extent it has been successful. The task of upgrading skills is also monumental. No criteria have been established to determine what upgraded skills are or when such upgrading has been accomplished. Thus far, the only truly tangible outcomes of training are based on the acquisition of new knowledge or new skills. School systems, therefore, have virtually no way of circumventing the hodge-podge of inservice training with which they are saddled.

Location of qualified training personnel. A major concern of school systems in providing inservice training continues to be the existence of qualified and quality trainers. Technically, no one is qualified, because thus far no definitive criteria for trainer preparation have been developed. Since teaching is the business of education,

it has been assumed that highly skilled, effective classroom teachers have the necessary critieria to be effective trainers. Furthermore, because inservice training needs are most crucial in those areas of either teacher shortages or lack of teacher preparation, there is also a numerical shortage of persons qualified to be even considered for becoming trainers. Like higher education, school systems have also failed to recognize the training of trainers as essential to providing quality inservice training. The other adverse dynamic is that in identifying and selecting trainers from among the classroom-teacher population, quality teachers are removed from that environment where the greatest need exists.

Program planning. Inservice training modalities most frequently follow two formats: (1) a workshop format consisting of an intensive activity conducted over a concentrated time-span, usually ranging from a few hours to a few days of consecutive time; or (2) a course-type format consisting of a series of sessions encompassing a few hours per week over a period of ten to fifteen weeks. Neither of the two formats provides for innovation and creativity in the inservice training function. However, they appear to be (1) the most convenient since only a nominal amount of planning time is involved, and (2) the most cost-effective (even though insufficient data exist that provide adequate support for either premise). In reality, school systems have given little attention to inservice training in general, and the needs of adult learners, in this case educational personnel, in particular. When providing inservice training, a basic supposition should be the most effective training of the largest number of constituents for the least amount of dollars. Furthermore, in designing inservice training programs, it appears that they reflect either the way one teaches or the way one has been taught. A distinct void in alternative inservice training strategies exists with a very little indication of a remedy in sight. As a result, inservice training programs tend to be hurriedly planned and implemented, resulting in insignificant outcomes at best.

Problems Faced By Higher Education

Within the province of inservice training, higher education, like school systems, is beset with several problems affecting their training capacity and capability. It is understandable that because of increasing budgetary constraints, higher education is hesitant not only to modify and expand existing programs, but also to begin new ones. There is particular reluctance to develop inservice training capacities with its need to expand significantly both material and human resources. Some of the other critical problems exist in the following areas: (1) training direction, (2) program design, (3) discipline orientation, and (4) faculty involvement.

Training direction. If higher education is to begin addressing the critical inservice training needs faced by school systems, it must reconsider its current direction. In a period of declining enrollments, particularly in the area of education, considerable re-thinking needs to occur concerning the identification of populations needing training, as well as the type of training to be undertaken. Clearly evident is the persistence of the narrow scope of training which higher education has traditionally pursued--the discipline/degree orientation. Now may be the ideal time for innovation and creativity in the domain of higher education--inservice training provides the ideal opportunity.

For example, two special trainee populations in in-service training which have been neglected but which can be addressed by higher education are trainers and paraprofessionals. With the current mushrooming of activities in the area of continuing education, higher education in the various disciplines might do well to look more closely at training beyond the realm of the degree-granting function.

Program design. The tremendous need for inservice education faced by school systems is due, in part, to the eclectic approach of degree programs taken by higher-education college graduates. The graduates having completed the conventional higher education program may be knowledgeable, but when they go into actual practice they are

unprepared for the work tasks required by their chosen professions. The need for inservice training is, in essence, initiated and instigated by the teacher-preparation practices followed by higher education. Furthermore, while there is strong endorsement of the need for extensive field-based experience, a rigorous adherence to the traditional course structure of degree programs frequently inhibits professional development in this dimension. A real problem is providing alternatives that move higher education in general, and schools of education in particular, out of the traditional course structure.

Inservice training has emerged as perhaps the most crucial demand of the education professions. Inservice training requires a sound knowledge base and commensurate skills development. If higher education is to effectively respond to inservice training, once again it needs to reorder priorities and directions. Since inservice training does not necessarily demand a higher-education credential, new forms of education service delivery need to be considered and implemented. Institutes, seminars, and workshops have been tried and need to be given greater consideration of their role in higher education.

Discipline orientation. Higher education is also plagued by vested interests among the disciplines, which effectively inhibit efforts to develop multidisciplinary programs in response to inservice training needs. Particularly in a period of tight money and declining enrollments, there is justifiable reluctance to share resources, especially the student resource. Those programs which are considered to be multidisciplinary in design tend to be nothing more than course-exchange programs. However, in trying to go beyond the course-exchange approach, the question which needs to be asked is: How are the disciplines to effectively interrelate in a multidisciplinary effort, in a manner which is mutually beneficial to all concerned? Within higher education, particularly if the discipline of education maintains its current mode of emphasizing the training of public-school educators, inservice training must be addressed.

Faculty involvement. While faculty are encouraged to pursue grants and contracts and to become more involved in public service, higher education has not yet developed an equitable reward system for them to do so. Such efforts are, typically, in addition to regular faculty responsibilities, with no or very nominal remuneration given for the service. No additional support staff are provided to conduct the activity. No additional release time is provided for writing reports or articles for publication based on the activity. Furthermore, since an increasing number of institutions of higher education follow the practice of "publish or perish," the demanding activity of program-development is typically not considered commensurate with publications which, in fact, involve less time commitment.

A critical need is the inservice training of higher-education faculty itself, using the same incentives--of career upgrading, and knowledge and skills acquisition for career enhancement--which have been applied to school system inservice training. Professional obsolescence in academia should become a major concern, particularly as enrollments decline and tenure is challenged. As new programs are mounted or broadened to include new education service populations in need of in-service training, university faculties are going to require re-training or inservice training themselves.

If an important function of institutions of higher education will be to train trainers, the question: Who will train the trainer of trainers? must be addressed. Most faculties are not well-enough equipped with skills or training. They know how to lecture in a college mode but have never been trained to train. Collaboration between the educators in the field and the university faculty is an absolute necessity for effective inservice training to occur.

Points of Comparison or Departure?

In order to assess the apparent discord existing in inservice training between school systems and higher education, five basic elements of training in general will be examined: (1) trainee populations;

(2) quality of trainers; (3) objectives of training programs offered; (4) perspectives and designs of training programs; and (5) incentives offered for participation in training activities.

Trainee populations. As has been mentioned previously, both higher education and school systems have in common trainees in the adult learner category. Furthermore, the trainee populations have a common core of either working toward or having membership in the education service community. Even more specifically, populations served by inservice training include teachers, school administrators, counselors, and other education-related personnel. Trainee populations at the graduate level of training in schools of education, in particular, have essentially the same composition. The basic difference between the two trainee populations is their reason for participation--the inservice trainee participates to upgrade job skills; the graduate trainee participates to obtain an advanced degree.

Quality of trainers. A major concern in providing effective inservice training is the quality of the trainers conducting the program. In neither higher education nor school systems are there identifiable and established criteria qualifying trainers. Trainers in school systems most often are or were highly skilled classroom teachers, while trainers in higher education are professors. Both groups of trainers lack a foundation in working with adult learner populations, and in designing and implementing alternative models of inservice training. Furthermore, the school system trainers claim expertise on the basis of their classroom instruction experience; higher education trainers claim expertise on the basis of their academic preparation and research or scholarly performance.

Objectives of training programs offered. The disparity between school systems' and higher education's responses to training is obvious in the objectives of their training functions. The primary objective of inservice training provided by school systems is skills development and upgrading for occupational relevancy and currency. However, for

higher education, the primary objective of graduate training is scholarship and professional career preparation. While there appears to be a common goal within the context of career preparation, the disparity which exists is reinforced by the school systems' concentration on current circumstances, as opposed to higher education's concentration on future outcomes. In reality, a dichotomy does exist in the teacher preparation process of higher education which takes into account school-system teacher-certification requirements in its prescribed course of study for elementary and secondary educators.

Perspectives and designs of training programs. Significant differences are also evident in the training programs offered by higher education and school systems. The training provided by higher education is degree-oriented and typically consists of a prescribed course of study. On the other hand, school system training, namely inservice, is not degree-oriented and typically follows a workshop format. Furthermore, higher education training programs are long-term, lasting over a period of years, whereas the inservice training provided by school systems is short-term in nature, generally ranging from a few hours to a few months of weekly sessions. Within the activities conducted, school systems are skills-oriented, while higher education is discipline-oriented. One common factor is that inservice training frequently follows a study-course format comparable to that offered by higher education.

Incentives offered for participation in training activities. There is also considerable distinction between the incentives provided participants in their respective training programs. In higher education, only two rewards exist. One is credit for courses taken; the other, based on the accumulation of appropriate course credit, is the award of a degree. Excluding college course credit, school systems, however, can offer a much broader range of rewards, such, as release time, stipends, and salary step credit. Collaboration between higher education and school systems in the training activities each conducts can (and has) resulted in greater incentive options, as well as broader degree course offerings.

Conclusion

Both the school system in its inservice training and higher education in its undergraduate/graduate training concentrate on adult learner populations. Yet neither is qualified to be totally responsible for conducting quality inservice training. However, both do provide a unique knowledge and expertise: school systems in field-based, field-experienced learning; higher education in its research on teaching and learning. What neither has provided, which should be considered essential to the provision of inservice training, is an understanding and mastery of (1) adult learning processes, (2) adult motivation, (3) alternative inservice training approaches, and (4) trainer preparation.

What we desperately need, to accomplish all this, is a collaborative effort by school systems and higher education institutions to analyze problems, engage in joint planning, and achieve a true synergy in implementing effective adult learning in inservice training.

VII

The Influence of Stress on the Educator as Adult Learner

With all the information available on stress these days, some new insights and unique configurations should be taken into account that pertain to capitalizing on the stress we experience throughout our life time, especially in our capacity as adult learners, and examine their constructive aspects. To do so, the following needs should be addressed.

First of all, we need to acknowledge that in today's world, there is no such thing as stress-free living.

Second, we need to recognize that stress is constant, and that it is complex.

Third, we need to realize that it is a dynamic, motivating factor.

And fourth, we need to understand that it contributes to both learning and unlearning.

Given those descriptors, we can begin to examine how stress influences our learning capacities, as well as the extent of its influence on as educators who are also adult learners. An underlying concern is determining to what extent it adds to or detracts from our sense of personal worth and satisfaction with life. This discussion focuses on one basic question: Can we, as adults, learn and be taught how to assume responsibility for the directions our lives take, and handle the stress we face in a manner compatible with our total self as we progress through the life span? In order to address the question, we will explore (1) what models addressing stress encompass,* (2) to what extent the mind dominates, (3) how life events relate to stress, (4) what strategies for handling stress might be used, and (5) finally, what the implications of all this are for us as educators and adult learners.

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*An analysis, "Models of Stress," is not discussed here, but is included as additional and pertinent information at the end of this chapter.

Models of Stress

Stress research is a fairly recent phenomena, having come to fore only since the 1920's, and actually not beginning to burgeon unt' after World War II. It probably comes as no surprise that most research on stress has been prompted by its physiological effects on the human being, and therefore, and perhaps quite logically, has been dominated by physicians -- who have been exposed most to its physical effects -- as opposed to psychologists, sociologists, or educators. Ironically, even though there is growing acknowledgement that stress emanates from the mind rather than the body, concentration of research efforts continues to reside with the medical professions. However, there is growing evidence that this concentration is broadening.

Sol Levine and Norman Scotch, both professors at the Johns Hopkins School of Hygiene and Public Health, compiled a compendium of articles on the current status of the behavioral aspects of stress.[1] In their work, Social Stress, they identified four sources of stress that effect the individual and are prevalent today. Those sources include the individual's family, work setting, social class position, and degree of exposure to urbanization. According to Levine and Scotch, manifestations of stress are evident in the physical, psychological, and social aspects of the person. They also identify four components of stress consisting of (1) the nature of the stressor, that is the primary stress inducing factor, (2) its perceived meaning by the individual; (3) the method used for coping with the stressor; and (4) the resultant strain or deformation produced by the stress experience.

In his work, Stress and Frustration, Irving Janis examines personality changes that have been provoked by stressful and frustrating life events. He concentrates on the adaptive and maladaptive aspects of the individual's emotional behavior evoked by the environmental circumstance. Janis distinguishes himself by devoting an entire chapter to basic learning theory, that he identifies as potentially relevant to managing stress. Unfortunately, his discourse only addresses the implications of behavioral learning theory.

Janis touches upon the affective aspects of learning responses by concentrating upon the adaptive personality changes that occur in response to the stress reactions of fear, shame, guilt, aggression, and grief.

Robert Anderson, physician and author of Stress Power!, identifies five sources of stress: physical, chemical, microbiological, psychological, and socio-cultural.[3] An analysis of eight models of stress, evaluating each in terms of their contribution to our current understanding of stress, was conducted by sociologist Robert Scott, and anthropologist Alan Howard.[4] The models of stress they reviewed included the adaptation, anxiety, and psychosomatic models; the protective reaction pattern model; the biochemical and the modified biochemical models; and the mechanical and the psychological responses to traumatic events models. Based on their analysis, they identified the following limitations of those models. The definition of stress differs from one model to another. The models are field-specific in that they cannot be extended to all levels of human functioning. Most fail to take into account the psychological and the physiological stress responses to factors that determine the nontraumatic events. They are incomplete in that they ignore critical factors that determine the nature of stress responses. Many contain unwarranted assumptions. And, some models do not adequately explain the data upon which they are presumably based. In response to those limitations. Scott and Howard developed an alternative model, the mastery model of stress that involves five conditions needed for successful problem solving. The five conditions for mastery they identify are: (1) the investment of energy at both general and specific levels; (2) appropriate and available resources; (3) the way the problem is formulated or occurs; (4) the way it is interpreted, including the physiological and psychological character of the problem that is developed; and (5) the way the person responds to the problem. It is their contention that once mastery takes place, the person's ability to manage stress is superior to the ability prior to the emer-

gence of the problem. That is, if the same problem arises again, the individual is better able to handle it effectively.

Clearly, we are far from fully understanding the phenomena of stress and their influence on our learning capacities, especially as adults. Yet we know that learning is a critical function that contributes to the adaptation process. The approaches to stress that have been reviewed reveal the neophyte stage we are at in comprehending the dynamics involved in stress management. While we have gotten to the point of identifying and treating stress-related illnesses, we continue to sidestep the positive stress we experience (initially acknowledged by the leading pioneer in stress research, Hans Selye), that serves as a prime motivator influencing personal achievement and satisfaction with life. It is amazing that we continue to prefer a crisis interpretation of stress as opposed to a life-fulfillment one. The difficulty rests with our lack of understanding stress in terms of the total person, the life events each of us experiences, and the affective aspects of learning that are called upon in response to stress. The crux of the issue, undoubtedly, revolves around our limited knowledge of the human mind.

A Matter of Mind Over Body

Being educators as well as adult learners, it is astounding that we have had such little involvement in resolving this dilemma. Although we too have finally jumped on the stress management training bandwagon, the timidity with which we approach staff development for stress resolution reveals our reluctance to pursue the little-known learning domain of the affective. We have not yet come to grips with the fact that the basics are not "reading, 'riting and 'rithmetic," but, in truth, the *real basics* are attitudes, values and feelings. And these *real basics* are cultivated within the unknown recesses of our minds.

In a recent National Geographic television special on "The Mysteries of the Mind," it was pointed out that even though the brain

is the most powerful force on earth, it lacks the power to understand itself.[5]

As he addresses the creative processes of the human mind, Rene Dubos in his work Mirage of Health examines the biological and social adaptation that we undergo throughout our existence in the living world, which he interprets as being both a struggle and a partnership.[6] Dubos points out that our desire for change sets us apart from other living things by leading us to a life of adventure, and away from the environment to which we are biologically adapted.[7]

In their interpretation of how the mind handles stress, Walter McQuade and Ann Aikman, co-authors of Stress, begin by quoting medical researcher Franz Alexander who states, "the fact that the mind rules the body is, in spite of its neglect by biology and medicine, the most fundamental fact we know about the process of life."[8] They go on to explain that it is in the mind that we confront a problem, which presents itself in three logical stages. In the first stage, we perceive the problem; in the second stage, we analyze it; and in the third stage, we reach a decision and act on it. However, the logical sequence of these stages is disrupted by subjection to our emotions, that involve our attitudes, values, and feelings. They also discuss how the mind can betray the body by using as a prime example the psychosomatic response to stress.[9]

In Anatomy of an Illness as Perceived by the Patient, Norman Cousins, after relating how he recovered from a crippling and supposedly irreversible disease through the power of his mind, makes reference to how our life experiences manifest stress. He states

> The war against microbes has been largely won, but the struggle for equanimity is being lost. It is not just the congestion outside us--a congestion of people and ideas and issues--but our inner congestion that is hurting us. Our experiences come at us from so many different directions that they are never really sorted out, much less absorbed. The result is clutter and confusion. We gorge the senses and starve the sensitivities.[10]

By acknowledging the power and dominance of the mind, we begin to have some sense of the intricacies of stress and our ability to manage it. The perspectives presented have provided at least three important revelations. First, the importance of the affective aspects of learning in managing stress have been brought to fore. In that regard, we need to recognize the intertwined nature of the cognitive and affective aspects of learning. And within that configuration accept and act on the prominence of the affective aspects, particularly as related to the emotive in terms of attitudes, values, and feelings. Second, the realization that we are capable of assuming responsiblity for our lives has finally surfaced. Unfortunately, most of us do not wish to assume such, and instead run away from it. By all indications, we do, indeed, possess the capacity to be in much greater control of our lives than we are willing to suppose. And third, the ability to interpret and even categorize life events has emerged as an imperative to effective stress management. There is increasing evidence that we are capable of anticipating most life events we experience. However, we tend to ignore or disregard the sensors that provide us with the cues of an impending happening, and in that regard, our level of awareness in recognizing those cues needs to be keenly developed.

Taking Charge of Life Events

Life events actually serve as our primary learning lessons, especially since most of the stress we experience revolves around them. Directly related to the life events we experience, are the changes we undergo as we progress through the life span. Life events are facilitators of change, and contribute significantly to our growth as a total person. During our adult years, the change prompted by life events involves raising children, changing interests, adjusting to aging parents, helping teenage children become adults, attending training sessions, adjusting to physiological changes, starting a new job, changing diets, controlling weight, and preparing for retire-

ment, to name a few. To understand how life events are likely to influence us as adult learners, we need to consider the range of life events that influence us, as well as our range of responses to them.

In order to do so, an attempt to classify life events into seven distinct categories is made. Only a listing with a brief explanation of each category will be provided at this time.

1. Absolute Life Events focus on our physiological development over the life span and are shared in common by virtually all human beings. These life events focus on stage development characterized by prolonged events such as puberty, adolescence, and middle age.

2. Predetermined Life Events concentrate on traditions and common practice. They are carried on by generations and societal or religious customs, encompassing life events such as confirmation, marriage, and Passover.

3. Planned Life Events focus on accomplishing a designated task or achieving a special goal. Incorporated within these life events are the processes involved in reaching a desired end. They include getting a promotion, purchasing a home, getting a degree, and even going on a cruise.

4. Compelling Life Events involve experiencing repeatedly an irresistible urge or overwhelming pressure developed over time that causes us to act out as if directed to do so. These life events actually address adverse habits we have cultivated and represent somewhat compulsive behavior, such as overeating, nailbiting, and smoking.

5. Counteractive Life Events focus on our taking part in actions that are contrary to what is expected or desired. Life events such as eloping, failing a course, or being fired from a job fall into this category.

6. Spontaneous Life Events encompass the voluntary, impulsive and unanticipated actions we participate in, over which we appear

to have no control. These life events include falling in love, getting a speeding ticket, and misplacing car keys.

7. Random Life Events are those we do not anticipate and over which we truly have no control. They occur haphazardly and accidentally, and include episodes such as having an automobile accident, getting stuck in an elevator, or having a flight cancelled in transit.

These seven categories can be broken down into two classifications -- those life events that happen to us; and those we choose to have happen. Most we choose to have happen.

We are constantly building response patterns to these life events, and this building process allows us to transfer response patterns from past life events we have undergone to new life events we are now encountering. Thereby, we accumulate a broad range of alternative responses to use throughout our lives. As we experience life events, we develop our problem-solving abilities by opting for certain responses and discarding others. We simply keep what seems to work for us.

Stress is also part of life events. Every life event we experience involves a sequence that contributes to some form of tension. How we anticipate the life event, interpret it, respond to it, and perceive ultimate outcomes relating to it involves a range of stress reactions. This is true for both major and minor, traumatic and non-traumatic episodes.

Strategies for Handling Stress

Within the context of life events as learning lessons, we can manage stress by applying one of four approaches. These alternatives involve:

1. learning to change the stressful environment;
2. learning to manage potentially stressful situations;
3. learning to develop alternative responses and solutions to stressful circumstances; and

4. learning to generate a variety of options for avoiding stressful experiences.

Because of the nature of stress in our work environment, these four alternatives are particularly pertinent to the education arena in which we operate. In that regard, educators need to consider the following four questions as they proceed to identify and develop an appropriate strategy for handling stress in the work place.

1. How can we change our stressful work environment?

2. How can we prepare for and manage the stressful work situations we encounter?

3. How can we develop a range of possible responses and solutions to the work-related stress we are experiencing?

4. How can we produce viable and varied alternatives for circumventing the stressful work situation?

In terms of a strategy for handling stress, unlearning serves as a vital, creative function. As adult learners and educators, it is necessary to acknowledge the reality of those inhibiting learning patterns of the past that no longer facilitate personal stress management skills. Important to nurturing those skills is the willingness to forego obsolete learning patterns, and develop new ones to stimulate constructive coping capacities. Most of us are locked into a mind set that has kept us from fully acknowledging ourselves as developing individuals living lives filled with stress. The function of unlearning does not mean to imply that we erase what has been learned, but rather that we undo and redirect obsolete, past learning which is no longer useful or that poses an obstacle to new and useful means.

Since unlearning is crucial to changing established, but no longer adequate learning patterns, it is necessary to consider what intrinsic, motivational factors can stimulate the desire to change.

Five such factors contribute to our ability to unlearn. For a full discussion of the five factors, the reader is referred to Chapter III, "Adult Learning Potential: Implications for Education," pages 31 through 33.

The implications of unlearning as a strategy for handling stress encompass both creative functioning and motivational factors that contribute significantly to fostering our potential for growth. Critical aspects of this process are continual self-examination and expanding self-awareness. Reinforced by the unlearning process is the learner-educator dyad operating within each of us. Most importantly, we must be willing to assume responsiblity for our own learning and its application to managing the stress that influences our daily existence.

Implications for Educators

In our desire to effectively handle stress, we should not lose sight of the fact that throughout the life span, we continue to function as both learner and educator. The classroom we operate in is our total living environment--the world, the universe of which we are a part. The learning laboratory we use is our own life in which we continue to experiment for satisfactory outcomes. The learning lessons are the life events we experience. We also are motivated by the stress we perceive. The adaptation methodologies we use involve two key dynamics: One, our repertoire of responses--the established response patterns to life events that we are prone to use; the other, unlearning--the reshaping of our inappropriate responses into more useful and effective ones. Crucial to the life satisfaction and the quality of life we seek is the ability to maintain receptivity to change and the capacity to adapt to it.

To answer the question posited at the beginning of this chapter. Yes! As adults we <u>can</u> learn and be taught to assume responsibility for the direction our lives take. And in that regard, we <u>can</u> handle the stress we face in a manner compatible with our total self as we progress through the life span.

In closing, it is also worth noting some intriguing implications that this has for the adult learner educator. As greater understanding of the depth and breadth of the influence of stress on a person's life is pursued, the following is considered in relationship to the adaptation processes involved.

1. A major element to understanding stress is interpreting it in terms of the multi-faceted dynamics of the total person.

2. Stress stimulates our learning and unlearning capacities, especially those capacities pertaining to the affective.

3. Affective learning is the dominant function in our adaptation to stress.

4. The *real basics* of attitudes, values, and feelings provide the key to healthy and effective stress management.

5. Self-imposed limitations, as the major obstacle to handling stress, can be overcome through unlearning.

6. Life events provide us with a perpetual training ground to test and modify our coping skills as we adapt to stress.

7. Our repertoire of responses to life events is a prime contributor to the development of our own, unique set of strategies for stress management.

8. Our approach to managing stress is a major determinant influencing our satisfaction with life.

9. As adult learners, each and every one of us is a unique living-learning laboratory, constantly seeking desired outcomes. In that regard, it is high time that we begin to capitalize on this marvelous facility of ours.

10. Finally, educators, are designated to teach themselves and others to assume responsibility for their own lives, and to handle stress in a way that compliments the total self. In order to do so, we must overcome the barriers of self-imposed limitations and be willing to extend ourselves to the outermost reaches of our being--after all, such is the wonder of the mind.

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MODELS OF STRESS

DEVELOPED BY	MODEL	DEFINITION OF STRESS	KEY CONCEPTS	MAJOR PREMISE
D. Mechanic[a]	Adaptation Model	the discomforting responses of persons in particular situations	.adaptation .reversibility .defense	The amount of stress determines the social and social-psychological level of functioning in the organism.
M. Basowitz H. Persky S.J. Karchin R.R. Grinker[b]	Anxiety Model	a quality of a situation that is independent of the reaction of the individual to it	.anxiety .stress .stress situation	Through anxiety and stress, to interpret responses of groups of persons who are simultaneously subjected to conditions of extreme duress.
.F. Alexander[c] .H.F. Dunbar[d] .R.R. Grinker and J.P. Spiegel[e]	Psychosomatic Model	an attribute of stimuli	.anxiety .conflict .fear	Tension and strain that occur in one system of the body often have pathological consequences on other body systems.
H.G. Wolff[f]	Protective Reaction Pattern Model	a quality of the stimulus, as well as the individual's response to it	.protective reaction pattern	When the body is confronted with insults to its physical integrity, a complex reaction occurs aimed at sealing off and then ridding the body of its threat.

MODELS OF STRESS

DEVELOPED BY	MODEL	DEFINITION OF STRESS	KEY CONCEPTS	MAJOR PREMISE
H.Selye[g]	Biochemical Model	a state manifested by a specific syndrome consisting of all non-specifically induced changes within a biological system	.eustress .distress .stressor .stress reaction .general adaptation syndrome	An analysis of stress at the physiological and biochemical levels of human functioning.
W.J. Grace J.G. Depecs M. Robin E. Lindemann S.G. Margolin H.S. Ripley I.P. Stevenson C.H. Duncan[h]	Mechanical Model	the internal response of an organism to an external load placed upon it by some pathogenic agent, stressor, or life crisis	.stimuli .pathogenic agent .stressor .life crisis	Because of its nature, stress produces distinct pathological changes and certain typical disorders of adaptation.
B.P. Dohrenwend[i]	Modified Biochemical Model	a state intervening between antecedent constraints and consequent effort to reduce constraints	.inner constraint .external constraint .stress reaction	Stress is the product of any behavior in response to pressure, regardless of whether the behavior is adaptive or or maladaptive.
I.L. Janis[j]	Psychological Response to Traumatic Events Model	a quality of any situation that is independent of the reaction of individuals to large scale disasters	.the disaster situation .psychological responses of individuals to disaster .intrapsychic and situational determinants	Emphasis on reaction to traumatic events that encompasses three phases — the threat phase, the danger impact phase, and the postimpact victimization phase.

MODELS OF STRESS

DEVELOPED BY	MODEL	DEFINITION OF STRESS	KEY CONCEPTS	MAJOR PREMISE
R. Scott and A. Howard[k]	Mastery Model	a stimulus or condition that produces demands on the human organism that require it to exceed its ordinary level of functioning or restrict activity levels below usual levels of functioning	Mastery depends on .an adequate energy source .appropriate resources .the nature of the problem itself .the organism's "set" when the problem arises .how the organism responds to threat	An analysis of human functioning in problem solving terms--each human being tends to develop a characteristic level of activity and stimulation at which it functions most comfortably.
T.H. Holmes and R.H. Rahe[l]	Stress of Life Events Model	the adaptive response to the occurrence of a life event	.life event .life change .adaptive response	Relates psychological and sociolcultural stresses to the onset of disease based on the theme that the occurrence of a life event evokes some adaptive or coping behavior by the individual.
M. Friedman and R.H. Rosenman[m]	Type A Behavior Pattern Model	Type A behavior pattern--an action/emotion complex characterized by being aggressively involved in a chronic, incessant struggle to achieve more and more in less and less time	.Type A behavior pattern .Type B behavior pattern .reengineering	In the absence of Type A behavior, coronary heart disease, almost never occurs before age 70; when the behavior is present, heart disease can erupt in one's 30's or 40's.
R.A. Anderson[n]	Adaptability Model	any stimulus, real or imagined, which requires an individual to be or to do anything different from the way he is or the way he behaves at any given moment	.stress .tension .distress .functional model of man .adaptability	A workable model for understanding how human beings function using practical methods for handling tension..

MODELS OF STRESS

DEVELOPED BY	MODEL	DEFINITION OF STRESS	KEY CONCEPTS	MAJOR PREMISE
A.A. McLean[o]	Ever-Changing Circles of Occupational Stress Model	a process or system that includes not only the stressful event and the reaction to it, but all the intervening steps in between	.context .vulnerability .stressors .symptoms	A dynamic schemata for interpreting the complex interaction that exists between one's ever-changing vulnerability and pressures on the job, through a simple matrix of overlapping circles representing stressors, vulnerability, context, and symptoms.
T.S. Longner and S.T. Michael[p]	Social Psyciatric Model	the pathogenic (noxious or potentially noxious) factors in the individual's social environment	.stress .strain .reaction .dynamic equilibrium	A model that focuses on the problems of adjustment of all persons in society to obtain a better understanding of how people adapt and what forces tend to damage or enhance their adaptive capacities.
B.B. Brown[q]	Biofeedback Model of Social Stress	intellectual activity gone astray because it lacks information to solve the problems it perceives social stress - an unfavorable perception of the social environment and its dynamics	.social stress .stress reaction .worry syndrome (7 steps) .coping .biofeedback	The failure of intellectual activity to be productive is solely because the intellectual mechanisms lack the right information to produce answers that can effectively relieve the problem and the stress the intellect creates due to its inability to produce effective answers.

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VIII

The Foundation for a Total Person Model of Adult Learning Theory

In examining the current status of adult learning it becomes evident that the most significant contributions have been made by adult educators. Their interpretations of adult learning have focused upon participation and practice as they relate to organized learning, while they have only nominally addressed the adult learning process, itself. We still are far from knowing how adults learn. However, more than any other group of educators, they readily acknowledge the importance of affective learning and the influence of life experiences on the learning process. Clearly theory building in adult learning is in its infancy.

Where the developmentalists are concerned, educators readily perceive the connection between adult learning and adult development. The developmentalists have made us acutely aware of the major developmental changes that occur during adulthood, as well as the intricacies and complexities of our lives that contribute to our diversity and uniqueness as individuals. However, their contributions do not naturally fit into what is known about adult learning. Indeed, it appears as though they have left that part of the interpretation up to educators, who have not, until very recently, taken the assignment seriously. As a result, the knowledge base in this area is extremely limited. A comprehensive theory of adult learning must also take into account the effects of developmental change on the learning process.

To date, no learning theory nor developmental theory has taken into adequate consideration our unique and complex total composition, especially during our adult years. Disregarded has been the fact that our individual diversity increases as we mature. The theoretical model being developed in this paper encompasses three crucial concepts which attempt to incorporate all those dynamics that contribute to our personal composition in its entirely. The concepts include:

1. the *total person* as a living-learning laboratory;
2. life events as learning lessons; and
3. layering as a resource data bank.

Applied to our growth throughout the life span, each one addresses a critical factor that influences the form and function of our unique learning process.

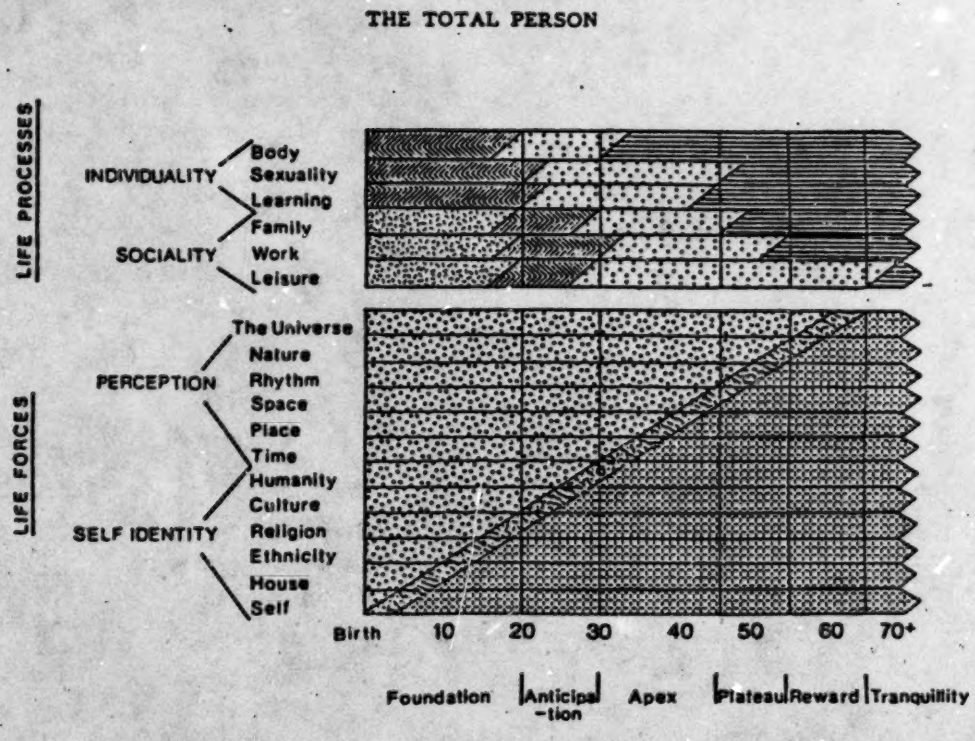
Concept One: The *Total Person* as a Living-Learning Laboratory.

Each of us, as a *total person* consists of three components--two that we all have in common, and one that highlights our individuality. Although distinctive from person to person, the two common components are (1) the sequential, developmental life processes that are on-going from birth to death, and (2) the intrinsic and extrinsic life forces that impact upon those life processes. The other component consists of the major and minor, anticipated and unanticipated life events we experience in profusion throughout the life span. It is the compilation of those components--life processes, life forces, and life events--that establishes our personal, living-learning laboratory. A graphic portrayal of the *total person* is presented in Figure 3. It allows us to visualize the complexity of human development. The life processes and the life forces have already been identified as the core elements of every one of us as a *total person.* Each life process and each life force has been plotted on the basis of chronological age, and has been divided into developmental phases.

Life Processes. In terms of the life processes, the propensity has been to interpret human growth in terms of chronological age and the configuration of a particular stage within that chronology. Unfortunately, given age and stage, we have managed to homogenize individuals rather than capitalize on their unique differences. However the life processes of the *total person* begin to reveal the variation that exists from person to person.

At least six life processes can be identified as operating simultaneously, although at varying rates, within each of us throughout our lifetime. They are:

Figure 1



Legend
Phases

Prep Initial Peak Mature

Presence Manifest Assimilation

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(1) The Body--our health, nutrition, and physical growth and development

(2) Sexuality--our physiological and emotional response to maleness and femaleness as we mature

(3) Learning--our adaptation to change through the acquisition and application of knowledge, skills and experience

(4) The Family--the establishment and maintenance of our household and its membership as its form and function evolve

(5) Work--the labor we prepare for, cultivate, and modify for a livelihood

(6) Leisure--our use of free time through recreation, social affairs, community activities, and the like

Each life process can be separated into three or four developmental phases. Those phases include:

.The prep phase, a covert preparation period preceding the overt onset of a given process that is experienced by only three of the processes;

.The initial phase, the initial, early years of a developing process;

.The peak phase, its full, middle years; and

.The mature phase, the later and closing years.

Life Forces. The life forces provide the foundation for our personal attitudes, interests, values, and beliefs. Because of their nature, the significance of the life forces has not been adequately recognized by either learning theorists, adult educators, or developmentalists. Yet the life forces provide the glue for our character development and sense of personal worth.

At least twelve life forces are present and influence our development over the life span. Along with the life processes, they also operate simultaneously and at varying degrees of growth. They are

(1) Self--how we value ourselves as human beings in terms of how we see ourselves and how we believe others see us

(2) House--the past, present and future aspects of our family, our relatives, and our heritage over generations

(3) Ethnicity--the customs, language and social views transmitted to us by the nationality and ethnology of our ancestry up to today.

(4) Culture--the thoughts, the speech, the actions, and the material aspects of the society we are living in that influence us

(5) Religion--the attitudes, beliefs, and practices which relate to our faithful devotion to an acknowledged ultimate reality or deity

(6) Humanity--our recognition of the attributes of mankind, the universal commonality of man, that is, how we are all alike

(7) Time--how we measure the continuum of past, present, and future actions, sequences, or events in our development

(8) Space--the psycho-social areas we can move in, given our sense of self, house, ethnicity, culture, religion, and humanity

(9) Place--our sphere of influence based upon our position and location in our family, work and social environs

(10) Rhythm--the pace of our lives in terms of the flow of life events and our ability to synchronize them as we develop

(11) Nature--our sense of relationship with all other living things

(12) The Universe--the totality of our being, as reflected by the interdependence and interrelatedness of the world of human experience through the orderly, harmonious, and systematic integration of all the preceding eleven life forces.

With the exception of self, all of the life forces follow three developmental phases that are hypothetical in nature, and also are characterized by a hierarchical progression. They consist of:

.The presence phase that acknowledges the existence of each force;

.The manifest phase that represents the surfacing and prominence of a given force; and

.The assimilation phase that represents its incorporation, in harmony with the other forces.

Life Stages. By combining the twelve life forces and the six life processes that continually impact on our system, the magnitude of our complex composition becomes obvious. When brought together to form a composite, six life stages evolve. They are:

(1) Foundation, stage one, begins at birth to 20 years of age,

(2) Anticipation, stage two, is from 20 to 30 years of age,

(3) Apex, stage three, is from 30 to 45 years of age,

(4) Plateau, stage four, is from 45 to 55 years of age,

(5) Reward, stage five, is from 55 to 70 years of age, and

(6) Tranquillity, stage six, is from age 70 onward.

Mention must also be made of four other classifications that are identified in Figure 3, but are separate and apart from the chronology of development. These classifications represent shared characteristics of certain processes and forces, and are most akin to personality development.

- Individuality refers to those life processes that are dependent upon the individual as a solitary unit
- Sociality refers to those life processes that are dependent upon social interaction with others
- Self-identity refers to those life forces that influence one's sense of self, and
- Perception refers to those life forces that influence a person's interpretation of his or her interaction with the environment.

That configuration of the *total person* provides us with the composition of our living-learning laboratory in which each of us functions as both learner and educator throughout our lifetime.

Concept Two: Life Events as Learning Lessons.

It is within the living-learning laboratory of the *total person* that life events, our basic learning lessons, are anticipated, experienced, and responded to. Life events are facilitators of change, and as such contribute significantly to our growth as a *total person*. As life events occur, they naturally bring about change in our total life system.

Life events can be classified into at least seven categories. There are those that are

(1) Absolute--they focus on our physiological development over the life span and are held in common with virtually all humankind

(2) Predetermined--they concentrate on traditions and common societal practice and custom

(3) Planned--they focus on accomplishing a designated task or achieving a special goal

(4) Compelling--they involve experiencing repeatedly an irresistible urge that prompts us to act

(5) Counteractive--they concentrate on our acting out in a manner contrary to what is expected

(6) Spontaneous--they encompass the voluntary, impulsive and intuitive actions we partake in

(7) Random--they involve those we are unable to anticipate and over which we have no control

The sequence, the configuration, the response set, and the ultimate outcome of each life event experienced is unique to each of us and cannot be duplicated by any other person. We are constantly building response patterns to life events. The building process allows us to transfer response patterns from past life events we have undergone to new life events we are not encountering. We can examine, handle, and learn from our response patterns to given life events through the use of a five-step sequence which involves the following

Step one: Identification--we recognize a life event we have experienced by acknowledging it;

Step Two: Selection--we choose a response or set of responses to the life event from our available repertoire of responses, in keeping with our sense of self;

Step Three: Performance--we act out our selected responses and thereby determine the appropriateness of fit;

Step Four: Modification--we practice and make changes in our selected response set to accommodate our interpretation of a given life event; and finally

Step Five: Adoption--through repeated performance of the selected response or set of responses, modification is completed as the action becomes part of us and adds to, or further reinforces, our repertoire of responses.

Through this sequence, life events facilitate the use of our learning capacities as we express our feelings, attitudes, values and beliefs; examine them; practice them; and alter them in keeping with our developing self. As we experience life events, we develop our decision-making capacities and our problem-solving abilities. It is through these two dynamics that we opt for certain responses and discard others. We simply keep what seems to work for us.

In that regard, there are three other critical dimensions of life events. They include:

1. Patterns of response--As we progress through the life span and experience life events, we become increasingly able to determine our response to them. By relying consistently on a given set of responses, we reinforce certain patterns that we tend to follow over and over again.

2. Interchangeability--The response patterns we build involve a high degree of interchange with other life episodes. Through this process, we transpose response patterns from past life events we have experienced, to new life events we are now experiencing.

3. Repertoire of responses--As we experience life events, we accumulate a range of alternative responses. Based upon our response patterns and the quality of interchangeability, we continue to refine our response options to a few selections, while keeping others in abeyance.

These three factors provide the guidelines for life events in their capacity as learning lessons operating within our living-learning laboratory.

Concept Three: Layering as a Resource Data Bank.

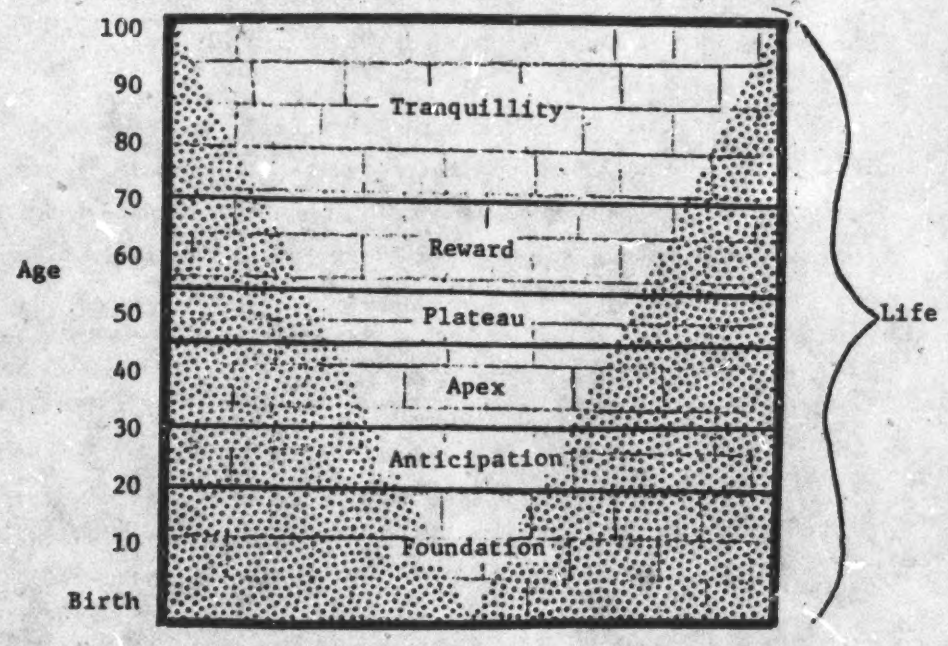
In conjunction with interpreting life events as learning lessons, a special dimension of our developmental process is that of layering. As life events make up our learning lessons, so layering serves as our resource data bank. The majority of developmentalists describe and define our progress through the life span only on a linear

basis. Ignored, but occurring simultaneously with our linear progression in the vertical building that occurs as we experience our life events. Layering actually focuses upon our accumulating, sorting through, and storing our attitudes, beliefs, knowledge, values, feelings, skills, and behaviors as we develop. It is a building process based on the premise that as we proceed through our ages and stages, we collect the various pieces of our lives, and store them for future reference.

Every life event we experience represents a building block in our development, and contributes to the stratum of the life stage in which it occurs. We progress through each stage by a building process that involves adding and connecting the blocks of life events. When a stratum of life (a life stage) has been completed, we begin the next by building on top of it, and so on throughout the life span. In that context, Figure 2 presents life as a monolith, and the stratum of each life stage as a critical level of its composition. Each stage carries

Figure 2

THE LAYERS OF LIFE



greater weight than the preceding one, continually compressing the ones beneath. Also within that monolith, an inverted pyramid is built-up with its tip in the first layer or stratum. The blocks within the pyramid serve as the retaining wall of the monolith. They represent the core of life events that have had greatest impact on the development and direction of our lives. Those outside of the pyramid represent lesser events that have contributed to our total configuration, and have had nominal influence on our composition. We retain all life events we experience throughout our lifetime. However, those occurring most recently are more pertinent in our present perception and recall, and therefore assume the largest segment of the pyramid. As time passes and layering continues, their prominence decreases commensurately.

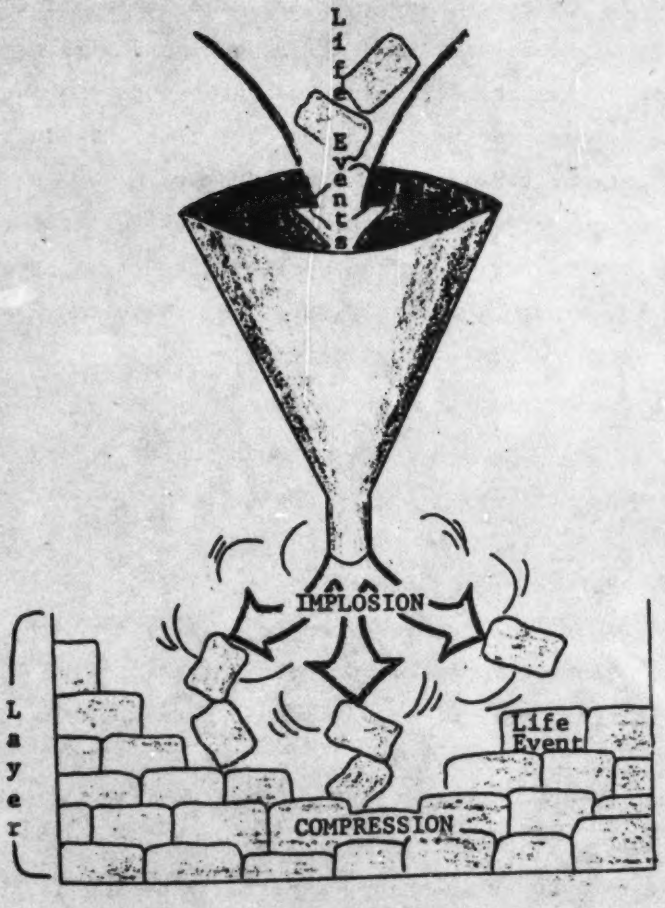
Through the process of layering, our living-learning laboratory also serves as an information center that is constantly processing the life events we experience. However, layering involves more than the storage and retrieval of pertinent life-experience-related information. In addition, this process also entails a series of other operations, that have to do with interpreting and shaping for future referral the information it gathers. The other operations of the layering process are presented in Figure 3. They include funneling, implosion and compression.

1. Funneling involves the flow of information from the prevailing layer downward with extraneous data funneled first and most rapidly, and pertinent data remaining near the surface and flowing at a much slower rate. When a life event occurs, we internalize all of the factors it encompasses that we are consciously, as well as unconsciously aware of. We take in the information based on our perception of its relevance, and so funneling occurs.

2. Implosion follows funneling, and involves integrating and centralizing new information in consonance with stored information, based on perceived order of importance. Once all the elements encompassing a given life event has been funneled, they are arranged into

Figure 3

THE LAYERING PROCESS



multidimensional groupings that take into account factors such as time and frequency of occurrence; specific and general impact on our personal system; complexity of composition; and degree of resource utilization in terms of energy expended and response options used. Through implosion the information we have taken in is arranged and rearranged in a manner compatible with the functioning of our *total person* system as it continues to evolve.

3. Compression follows implosion and involves the continuous compacting and placement of life-events-related information so that it remains useable and accessible. All of our past life experiences are in some form of compression within us, and as we continue to experience life events, we instinctively call upon our "inner resources" that are ultimately provided through this operation.

How layering serves as the resource data bank of our living-learning laboratory begins to be revealed through these three operations. Figure 3 represents how they function. Layering is not a static concept; it is a constantly moving dynamic.

Tenets of the Model

The *total person* model is based on a number of unique principles that further our understanding of the adult learning process. Ten tenets are listed:

1. The adult learning process in each of us entails our total composition and takes into account its complexity.

2. Human development follows both a vertical and linear progression that is a crucial part of the intrinsic nature of the adult learning process.

3. The learner-educator dyad operates within each of us throughout our lifespan.

4. The essence of learning, especially during adulthood, is based on our personal response to life events.

5. Life events cultivate most the affective, spontaneous,and intuitive and reflective dimensions of learning.

6. Each of us possesses readily identifiable learning patterns that we continue to refine.

7. Each of us possesses intrinsic learning operations that are stimulated by life events and function continuously.

8. Each of us possesses a built-in mechanism that evaluates our learning experiences (life events) and puts them into a perceived, as well as unconscious order of importance.

9. Each of us possesses the capacity to determine the direction of our lives, based on how we use our problem-solving and decision-making capacities.

10. The adult learning process extends well beyond cognitive learning as we know it, and is most attuned with affective, spontaneous, and intuitive and reflective learning that is highlighted by the myriad of life events each of us experiences over our life span.

In Conclusion...

The underlying premise of this evolving theory of adult learning is based on a number of self evident truths. First of all, whether child or adult, we do not know how a person learns. Second, a solid theoretical base addressing adult learning and adult learning potential does not exist. Third, the scope of our learning potential is unknown. Fourth, the dominant influence of society in shaping every one of us inhibits our growth in individuality. Finally, we continue to interpret the human being in segments of his or her total nature. The undergirding premise of the total person model of adult learning theory being constructed is that until we can realize our full learning potential, indeed, human potential, our ability to function effectively and in harmony, collectively remains circumscribed.

In that regard, the total person model attempts to remove from isolation the multitude of complex factors that contribute to our being, and to approach them as inseparable, inter-connected, and interdependent. This model also provides an interpretation of life events that acknowledges their importance and power in shaping our personal system within a learning context. In addition, it provides a developmental process which accounts for how we use our inner resources to adapt to change. The foundation for a comprehensive theory of adult learning has been laid; the building process will continue.